

# Colorado Department of Public Health and Environment

# **OPERATING PERMIT**

DCP Midstream, LP Greeley Gas Processing Plant

Issued May 1, 1999 Renewal Issued May 1, 2009

# AIR POLLUTION CONTROL DIVISION COLORADO OPERATING PERMIT

FACILITY NAME: Greeley Gas OPERATING PERMIT NUMBER

**Processing Plant** 

FACILITY ID: 1230099 **950PWE038** 

ISSUE DATE: May 1, 2009 EXPIRATION DATE: May 1, 2014

MODIFICATIONS: See Appendix F of Permit

Issued in accordance with the provisions of Colorado Air Pollution Prevention and Control Act, 25-7-101 et

seq. (1989 & 1995 Supp.) and applicable rules and regulations.

ISSUED TO:

DCP Midstream, LP

3009 West 44th Avenue,

Greeley, Colorado

Denver, CO 80202

PLANT SITE LOCATION:

3009 West 40th Avenue,

Weld County

INFORMATION RELIED UPON

Operating Permit Application Received: May 1, 2003

And Additional Information Received: March 27, 2007, June 27, 2007; July 25 & 26, 2007; October 25 & 31, 2007; November 8, 2007; February 29, 2008; March 28, 2008; April 2, 2008; June 12 & July 11, 2008;

August 6, 2008; December 22, 2008; January 2, 2009; April 9, 2009

Nature of Business: Natural Gas Liquids Processing and Gathering

Primary SIC: 1321

RESPONSIBLE OFFICIAL FACILITY CONTACT PERSON

Name: Joseph Kuchinski Name: Susan Rosenberg

Title: Senior Director of Operations Title: Senior Environmental Specialist

Phone: (970) 356-9700 Phone: (303) 605-1984

SUBMITTAL DEADLINES

Semi - Annual Monitoring Period: January 1 – June 30, July 1 – December 31

Semi -Annual Monitoring Report: August 1, 2009 and February 1, 2010 and subsequent years

Annual Compliance Period: January 1 – December 31

Annual Compliance Certification: February 1, 2010 and subsequent years

NOTE: The Semi-Annual Monitoring reports and the Annual Compliance report must be received at the Division office by 5:00 PM on the due date. Postmarked dates will not be accepted for the purposes of determining the timely receipt of those reports.

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#### **SECTION I - General Activities and Summary**

#### 1. Permitted Activities

1.1 The Greeley Gas Processing Plant, classified as a natural gas processing plant as set forth under Standard Industrial Classification 1321, consists of two operations, a gas processing skid and a fractionation assembly. The gas-processing skid utilizes straight refrigeration coupled with the Joule-Thompson process to create a natural gas liquid (NGL) product and a residue gas stream. The residue gas is recompressed and routed to the sales pipeline. The NGL product is sent to the fractionation assembly. Fugitive volatile organic compounds (VOC) emissions from the natural gas processing skid are subject to the provisions of 40 CFR Part 60 Subpart KKK, Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants.

The fractionation assembly separates the NGL product into ethane, propane, butane, isopentane and natural gasoline streams. Each of these streams is stored in pressurized bullet tanks prior to transport off-site by truck. Triethylene glycol (TEG) and ethylene glycol (EG) systems operate to dehydrate the ethane gas created by the fractionation process. The triethylene glycol unit is subject to the area source provisions of 40 CFR 63 Subpart HH. Fugitive VOC emissions from the fractionation towers and associated piping are subject to the provisions of 40 CFR Part 60 Subpart KKK.

The process uses compressors powered by eight (8) reciprocating internal combustion engines. Six (6) 1100-hp Waukesha L7042GSI engines can be used for either inlet or residue compression. For refrigeration, one (1) 896-hp Waukesha L-7042G engine and one (1) 1100-hp Waukesha L-7042GSI engine are used. Other equipment includes two (2) natural gas-fired heaters to heat an oil heating medium, pressurized product truck loadout rack (including propane, butane, B-G mix, Y-grade, isopentane, natural gasoline, and condensate), and a number of storage tanks of various sizes containing a variety of materials. The vapors from the condensate tank flash and liquid loadout are routed back to the inlet for processing by a gas-driven VRU (125-hp Waukesha F-11G).

The address of the Greeley Gas Processing Plant is 3009 West 44th Avenue, Greeley (SE½ & SW¼ of SW¼ of Section 25, T5N, R66W). The plant is located at the southern edge of Greeley near Highway 85. The area in which the plant operates is designated as attainment for all criteria pollutants except ozone. It is classified as non-attainment for ozone and is part of the 8-hr Ozone Control Area as defined in Regulation No. 7, Section II.A.1. This facility is located in an area classified as attainment/maintenance for carbon monoxide (CO). Under that classification, all SIP-approved requirements for CO will continue to apply in order to prevent backsliding under the provision of Section 110(1) of the Federal Clean Air Act.

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Wyoming is an affected state within 50 miles of the plant. Rocky Mountain National Park is a Federal Class I designated area within 100 kilometers of the plant.

- 1.2 Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air pollutants from this plant in accordance with the requirements, limitations, and conditions of this permit.
- 1.3 This Operating Permit incorporates the applicable requirements contained in the underlying construction permits, and does not affect those applicable requirements, except as modified during review of the application or as modified subsequent to permit issuance using the modification procedures found in Regulation No. 3, Part C. These Part C procedures meet all applicable substantive New Source Review requirements for purposes of this Operating Permit and shall survive reissuance. This Operating Permit incorporates the applicable requirements (except as noted in Section II) from the following Colorado Construction Permit(s):

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84WE094(2) 85WE304 85WE337-1 85WE337-2 85WE337-3 85WE337-4
87WE235-1 87WE237 87WE190 90WE048-2 90WE514-1 90WE514-2
96WE289 96WE294 96WE295
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- 1.4 All conditions in this permit are enforceable by the US Environmental Protection Agency, Colorado Air Pollution Control Division (hereinafter Division) and its agents, and citizens unless otherwise specified. **State-only enforceable conditions are:** Conditions 3.g (last paragraph), 14 and 18 (as noted).
- 1.5 All information gathered pursuant to the requirements of this permit is subject to the Record keeping and Reporting requirements listed under Condition 22 of the General Conditions in Section IV of this permit.

#### 2. Alternative Operating Scenarios (ver 11/8/08)

The following Alternative Operating Scenario (AOS) for the temporary and permanent replacement of natural gas fired reciprocating internal combustion engines has been reviewed in accordance with the requirements of Regulation No. 3., Part A, Section IV.A, Operational Flexibility-Alternative Operating Scenarios, Regulation No. 3, Part B, Construction Permits, and Regulation No. 3, Part D, Major Stationary Source New Source Review and Prevention of Significant Deterioration, and it has been found to meet all applicable substantive and procedural requirements. This permit incorporates and shall be considered a Construction Permit for any engine replacement performed in accordance with this AOS, and the permittee shall be allowed to perform such engine replacement without applying for a revision to this permit or obtaining a new Construction Permit.

2.1 Engine Replacement

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The following AOS is incorporated into this permit in order to deal with a compressor engine breakdown or periodic routine maintenance and repair of an existing onsite engine that requires the use of either a temporary or permanent replacement engine. "Temporary" is defined as in the same service for 90 operating days or less in any 12 month period. "Permanent" is defined as in the same service for more than 90 operating days in any 12 month period. The 90 days is the total number of days that the engine is in operation. If the engine operates only part of a day, that day shall count as a single day towards the 90-day total. The compliance demonstrations and any periodic monitoring required by this AOS are in addition to any compliance demonstrations or periodic monitoring required by this permit.

All replacement engines are subject to all federally applicable and state-only requirements set forth in this permit (including monitoring and record keeping), and shall be subject to any shield afforded by this permit.

The results of all tests and the associated calculations required by this AOS shall be submitted to the Division within 30 calendar days of the test or within 60 days of the test if such testing is required to demonstrate compliance with NSPS or MACT requirements. Results of all tests shall be kept on site for five (5) years and made available to the Division upon request.

The permittee shall maintain a log on-site and contemporaneously record the start and stop date of any engine replacement, the manufacturer, date of manufacture, model number, horsepower, and serial number of the engine(s) that are replaced during the term of this permit, and the manufacturer, model number, horsepower, and serial number of the replacement engine. In addition to the log, the permittee shall maintain a copy of all Applicability Reports required under Appendix H and make them available to the Division upon request.

2.1.1 The permittee may **temporarily** replace an existing compressor engine that is subject to the emission limits set forth in this permit with an engine that is of the same manufacturer, model, and horsepower or a different manufacturer, model, or horsepower as the existing engine without modifying this permit, so long as the emissions from the temporary replacement engine comply with the emission limitations for the existing permitted engine as determined in section 2.2. Measurement of emissions from the temporary replacement engine shall be made as set forth in section 2.2.

The permittee may temporarily replace a grandfathered or permit exempt engine or an engine that is not subject to emission limits without modifying this permit. In this circumstance, potential annual emissions of  $NO_x$  and CO from the temporary replacement engine must be less than or equal to the potential annual emissions of  $NO_x$  and CO from

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the original grandfathered or permit exempt engine or for the engine that is not subject to emission limits, as determined by applying appropriate emission factors (e.g. AP-42 or manufacturer's emission factors)

2.1.2 The permittee may permanently replace the existing compressor engine for the emission points specified in Table 1 with the manufacturer, model, and horsepower engines listed in Table 1 without modifying this permit so long as the emissions from the permanent replacement engine comply with 1) the permitted annual emission limitations for the existing engine, 2) any permitted short-term emission limitations for the existing permitted engine, and 3) the applicable emission limitations as set forth in Section II. Measurement of emissions from the permanent replacement engine and compliance with the applicable emission limitations shall be made as set forth in Section II.

An Air Pollutant Emissions Notice (APEN) that includes the specific manufacturer, model and serial number and horsepower of the permanent replacement engine shall be filed with the Division for the permanent replacement engine within 14 calendar days of commencing operation of the replacement engine. The APEN shall be accompanied by the appropriate APEN filing fee, a cover letter explaining that the permittee is exercising an alternative operating scenario and is installing a permanent replacement engine, and a copy of the relevant Applicability Reports for the replacement engine. Example Applicability Reports can be found in Appendix H. This submittal shall be accompanied by a certification from the Responsible Official indicating that "based on the information and belief formed after reasonable inquiry, the statements and information included in the submittal are true, accurate and complete".

This AOS cannot be used for permanent engine replacement of a grandfathered or permit exempt engine or an engine that is not subject to emission limits.

The permittee shall agree to pay fees based on the normal permit processing rate for review of information submitted to the Division in regard to any permanent engine replacement.

#### 2.2 Portable Analyzer Testing

Note: In some cases there may be conflicting and/or duplicative testing requirements due to overlapping Applicable Requirements. In those instances, please contact the Division Field Services Unit to discuss streamlining the testing requirements.

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Note that the testing required by this Condition may be used to satisfy the periodic testing requirements specified by the permit for the relevant time period (i.e. if the permit requires quarterly portable analyzer testing, this test conducted under the AOS will serve as the quarterly test and an additional portable analyzer test is not required for another three months).

The permittee may conduct a reference method test, in lieu of the portable analyzer test required by this Condition, if approved in advance by the Division.

The permittee shall measure nitrogen oxide  $(NO_X)$  and carbon monoxide (CO) emissions in the exhaust from the replacement engine using a portable flue gas analyzer within seven (7) calendar days of commencing operation of the replacement engine.

All portable analyzer testing required by this permit shall be conducted using the Division's Portable Analyzer Monitoring Protocol (ver March 2006 or newer) as found on the Division's website at: <a href="http://www.cdphe.state.co.us/ap/down/portanalyzeproto.pdf">http://www.cdphe.state.co.us/ap/down/portanalyzeproto.pdf</a>

Results of the portable analyzer tests shall be used to monitor the compliance status of this unit.

For comparison with an annual (tons/year) or short term (lbs/unit of time) emission limit, the results of the tests shall be converted to a lb/hr basis and multiplied by the allowable operating hours in the month or year (whichever applies) in order to monitor compliance. If a source is not limited in its hours of operation the test results will be multiplied by the maximum number of hours in the month or year (8760), whichever applies.

For comparison with a short-term limit that is either input based (lb/mmBtu), output based (g/hp-hr) or concentration based (ppmvd @ 15% O<sub>2</sub>) that the existing unit is currently subject to or the replacement engine will be subject to, the results of the test shall be converted to the appropriate units as described in the above-mentioned Portable Analyzer Monitoring Protocol document.

If the portable analyzer results indicate compliance with both the  $NO_X$  and CO emission limitations, in the absence of credible evidence to the contrary, the source may certify that the engine is in compliance with both the  $NO_X$  and CO emission limitations for the relevant time period.

Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, if the portable analyzer results fail to demonstrate compliance with either the  $NO_X$  or CO emission limitations, the engine will be considered to be out of compliance from the date of the portable analyzer

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test until a portable analyzer test indicates compliance with both the  $NO_X$  and CO emission limitations or until the engine is taken offline.

- 2.3 Applicable Regulations for Permanent Engine Replacements
  - 2.3.1 Reasonably Available Control Technology (RACT): Reg 3, Part B § II.D.2

All permanent replacement engines that are located in an area that is classified as attainment/maintenance or nonattainment must apply Reasonably Available Control Technology (RACT) for the pollutants for which the area is attainment/maintenance or nonattainment. Note that both VOC and  $NO_X$  are precursors for ozone. RACT shall be applied for any level of emissions of the pollutant for which the area is in attainment/maintenance or nonattainment, except as follows:

In the Denver Metropolitan  $PM_{10}$  attainment/maintenance area, RACT applies to  $PM_{10}$  at any level of emissions and to  $NO_X$  and  $SO_2$ , as precursors to  $PM_{10}$ , if the potential to emit of  $NO_X$  or  $SO_2$  exceeds 40 tons/yr.

For purposes of this AOS, the following shall be considered RACT for natural-gas fired reciprocating internal combustion engines:

VOC: The emission limitations in NSPS JJJJ CO: The emission limitations in NSPS JJJJ NO<sub>X</sub>: The emission limitations in NSPS JJJJ

SO<sub>2</sub>: Use of natural gas as fuel PM<sub>10</sub>: Use of natural gas as fuel

As defined in 40 CFR Part 60 Subparts GG (§ 60.331) and 40 CFR Part 72 (§ 72.2), natural gas contains 20.0 grains or less of total sulfur per 100 standard cubic feet.

2.3.2 Control Requirements and Emission Standards: Regulation No. 7, Sections XVI. and XVII.E (State-Only conditions).

Control Requirements: Section XVI

Any permanent replacement engine located within the boundaries of an ozone nonattainment area is subject to the applicable control requirements specified in Regulation No. 7, section XVI, as specified below:

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Rich burn engines with a manufacturer's design rate greater than 500 hp shall use a non-selective catalyst and air fuel controller to reduce emission.

Lean burn engines with a manufacturer's design rate greater than 500 hp shall use an oxidation catalyst to reduce emissions.

The above emission control equipment shall be appropriately sized for the engine and shall be operated and maintained according to manufacturer specifications.

The source shall submit copies of the relevant Applicability Reports required in section 2.1.2.

*Emission Standards: Section XVII.E – State-only requirements* 

Any permanent engine that is either constructed or relocated to the state of Colorado from another state, after the date listed in the table below shall operate and maintain each engine according to the manufacturer's written instructions or procedures to the extent practicable and consistent with technological limitations and good engineering and maintenance practices over the entire life of the engine so that it achieves the emission standards required in the table below:

Max Engine HP	Construction or Relocation Date	Emission	n Standards in C	G/hp-hr
		$NO_X$	CO	VOC
100 <hp<500< td=""><td>January 1, 2008</td><td>2.0</td><td>4.0</td><td>1.0</td></hp<500<>	January 1, 2008	2.0	4.0	1.0
	January 1, 2011	1.0	2.0	0.7
500 <u>&lt;</u> Hp	July 1, 2007	2.0	4.0	1.0
	July 1, 2010	1.0	2.0	0.7

The source shall submit copies of the relevant Applicability Reports required in section 2.1.2.

An engine that meets the requirements of NSPS JJJJ, or MACT Subpart ZZZZ is exempt from Regulation No. 7, Sections XVII as provided in Regulation No. 7, XVII.B.4.

#### 2.3.3 NSPS for spark ignition internal combustion engines: 40 CFR 60, Subpart JJJJ

A permanent replacement engine that is manufactured on or after 7/1/09 for emergency engines greater than 25 hp, 7/1/2008 for engines less than 500 hp, 7/1/2007 for engines greater than or

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equal to 500 hp except for lean burn engines greater than or equal to 500 hp and less than 1,350 hp, and 1/1/2008 for lean burn engines greater than or equal to 500 hp and less than 1,350 hp are subject 40 CFR 60, Subpart JJJJ. An analysis of applicable monitoring, recordkeeping, and reporting requirements for the permanent engine replacement shall be included in the Applicability Reports required under Condition 2.1.2`. Any testing required by the NSPS is in addition to that required by this AOS. Note that the initial test required by NSPS Subpart JJJJ can serve as the testing required by this AOS under Condition 2.2, if approved in advance by the Division, provided that such test is conducted within the time frame specified in Condition 2.2.

Note that under the provisions of Regulation No. 6. Part B, section I.B. that Relocation of a source from outside of the State of Colorado into the State of Colorado is considered to be a new source, subject to the requirements of Regulation No. 6 (i.e., the date that the source is first relocated to Colorado becomes equivalent to the manufacture date for purposes of determining the applicability of NSPS JJJJ requirements).

However, as of November 1, 2008 the Commission has not yet adopted NSPS JJJJ. Until such time as it does, any engine subject to NSPS will be subject only under Federal law. Under 40 CFR §60.14 relocation, absent any other changes, will not cause an existing engine that isgrandfathered from NSPS JJJJ to become subject to NSPS JJJJ. Once the Commission adopts NSPS JJJJ, there will be an additional step added to the determination of the NSPS. Under the provisions of Regulation No. 6, Part B, § I.B (which is referenced in Part A), any engine relocated from outside of the State of Colorado into the State of Colorado is considered to be a new source, subject to the requirements of NSPS JJJJ.

#### 2.3.4 Reciprocating internal combustion engine (RICE) MACT: 40 CFR Part 63, Subpart ZZZZ

#### 2.3.4.1 Area Source for HAPs

A permanent replacement engine located at an area source that commenced construction or reconstruction after June 12, 2006 as defined in § 63.2, will meet the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart JJJJ. An analysis of the applicable monitoring, recordkeeping, and reporting requirements for the permanent engine replacement shall be included in the Applicability Reports required under Condition 2.1.2. Any testing required by the MACT is in addition to that required by this AOS. Note that the initial test required by the MACT can serve as the testing required by this AOS under Condition 2.2, if approved in advance by the Division, provided that such test is conducted within the time frame specified in Condition 2.2.

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#### 2.3.4.2 Major source for HAPs

A permanent replacement engine that is located at major source is subject to the requirements in 40 CFR Part 63 Subpart ZZZZ as follows:

Existing, new or reconstructed spark ignition 4 stroke rich burn engines with a site rating of more than 500 hp are subject to the requirements in 40 CFR Part 63 Subpart ZZZZ.

New or reconstructed (construction or reconstruction commenced after 12/19/02) 2 stroke and 4 stroke lean burn engines with a site rating of more than 500 hp are subject to the requirements in 40 CFR Part 63 Subpart ZZZZ.

New or reconstructed (construction or reconstruction commenced after 6/12/06) 4 stroke lean burn engines with a site rating of greater than or equal to 250 but less or equal to 500 hp and were manufactured on or after 1/1/08 are subject to the requirements in 40 CFR Part 63 Subpart ZZZZ.

New or reconstructed (construction or reconstruction commenced after 6/12/06) 2 stroke lean burn or 4 stroke rich burn engines with a site rating of 500 hp or less will meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart JJJJ.

New or reconstructed (construction or reconstruction commenced after 6/12/06) 4 stroke lean burn engines with a site rating of less than 250 hp will meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart JJJJ.

An analysis of the applicable monitoring, recordkeeping, and reporting requirements for the permanent engine replacement shall be included in the Applicability Reports required under Condition 2.1.2. Any testing required by the MACT is in addition to that required by this AOS. Note that the initial test required by the MACT can serve as the testing required by this AOS under Condition 2.2, if approved in advance by the Division, provided that such test is conducted within the time frame specified in Condition 2.2.

#### 2.3.5 Additional Sources

The replacement of an existing engine with a new engine is viewed by the Division as the installation of a new emissions unit, not "routine replacement" of an existing unit. The AOS is therefore essentially an advanced construction permit review. The AOS cannot be used for additional new emission points for

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any site; an engine that is being installed as an entirely new emission point and not as part of an AOS-approved replacement of an existing onsite engine has to go through the appropriate Construction/Operating permitting process prior to installation.

Table 1
Internal Combustion Engine Information For AOS

Emission Point	Replacement Engine	Periodic Monitoring	MACT status	Subject to CAM?
P120	Waukesha Model F-3521 GSI, 450 HP, standard rich burn, turbocharged, natural gas fired engine w/ AFR & NSCR	Portable Monitoring Quarterly	N/A	No
P121	Waukesha Model F-11 G, 125 HP, standard rich burn, natural gas fired engine w/ AFR & NSCR	Portable Monitoring Quarterly	N/A	No
P122	Waukesha Model L-7042 GSI, 1100 HP, standard rich burn, turbocharged, natural gas fired engine w/ AFR & NSCR	Portable Monitoring Quarterly	N/A	Yes
P123	Waukesha Model L-7042 GSI, 1100 HP, standard rich burn, turbocharged, natural gas fired engine w/ AFR & NSCR	Portable Monitoring Quarterly	N/A	Yes
P124	Waukesha Model L-7042 GSI, 1100 HP, standard rich burn, turbocharged, natural gas fired engine w/ AFR & NSCR	Portable Monitoring Quarterly	N/A	Yes
P125	Waukesha Model L-7042 GSI, 1100 HP, standard rich burn, turbocharged, natural gas fired engine w/ AFR & NSCR	Portable Monitoring Quarterly	N/A	Yes
P126	Waukesha Model L-7042 GSI, 1100 HP, standard rich burn, natural gas fired engine w/ AFR & NSCR	Portable Monitoring Quarterly	N/A	Yes
P127	Waukesha Model L-7042 GU, 896 HP, standard rich burn, natural gas fired engine w/ AFR & NSCR	Portable Monitoring Quarterly	N/A	No
P128	Waukesha Model L-7042 GSI, 1100 HP, standard rich burn, turbocharged, natural gas fired engine w/ AFR & NSCR	Portable Monitoring Quarterly	N/A	Yes

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Emission Point	Replacement Engine	Periodic Monitoring	MACT status	Subject to CAM?
P129	Waukesha Model L-7042 GSI, 1100 HP, standard rich burn, turbocharged, natural gas fired engine w/ AFR & NSCR	Portable Monitoring Quarterly	N/A	Yes

#### 3. Prevention of Significant Deterioration/New Source Review (PSD/NSR)

3.1 This plant is located in an area designated as attainment for all pollutants except ozone. This facility is located in an area classified as attainment/maintenance for carbon monoxide (CO). Under that classification, all SIP-approved requirements for CO will continue to apply in order to prevent backsliding under the provision of Section 110(1) of the Federal Clean Air Act. Based on the information provided in the Title V application, this facility is categorized as a NANSR major stationary source (Potential to Emit of VOC or NOx ≥ 100 Tons/Year). Future modifications at this facility resulting in a significant net emissions increase (see Reg 3, Part D, Sections II.A.26 and 42) for VOC or NOx or a modification which is major by itself (i.e. a Potential to Emit of ≥ 100 TPY of either VOC or NOx) may result in the application of the NANSR review requirements.

Based on the information provided by the applicant, this source is categorized as a minor stationary source for PSD as of the issue date of this permit. Any future modification which is major by itself (Potential to Emit of  $\geq 250$  TPY) for any pollutant listed in Regulation No. 3, Part D, Section II.A.42 for which the area is in attainment or attainment/maintenance may result in the application of the PSD review requirements.

3.2 There are no other Operating Permits associated with this plant for the purposes of determining the applicability of the PSD regulations.

#### 4. Accidental Release Program (112(r))

- 4.1 Based on the information provided by the applicant, the plant is subject to the provisions of the Accidental Release Prevention Program (Section 112 (r) of the Federal Clean Air Act).
- 4.2 The Risk Management Plan required by the Act was submitted to the appropriate authority and/or a designated central location by June 20, 1999.

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#### 5. Compliance Assurance Monitoring (CAM)

5.1 The following emission points at this facility use a control device to achieve compliance with an emission limitation or standard to which they are subject and have pre-control emissions that exceed or are equivalent to the major source threshold. They are therefore subject to the provisions of the CAM program as set forth in 40 CFR Part 64, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV:

P122, P123, P124, P125, P126, P128, P129 – Waukesha Model L-7042GSI ICE

#### 6. Summary of Emission Units

6.1 The emissions units regulated by this permit are the following:

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AIRS Stack Number	Plant Identifier	Description	Size	Pollution Control Device	Construction Permit
101	P120	Waukesha Model F-3521 GSI Natural Gas Fired Internal Combustion Reciprocating Engine, 4-cycle, Turbocharged, Standard Rich Burn w/ air/fuel ratio controller; Serial No. 327086; powering a natural gas compressor	450 HP	Non-Selective Catalytic Reduction	84WE094(2)
102	P121	Waukesha Model F-11 G Natural Gas Fired Internal Combustion Reciprocating Engine, 4-cycle, Standard Rich Burn w/ air/fuel ratio controller; Serial No. 5294177; powering a natural gas compressor	125 HP	Non-Selective Catalytic Reduction	85WE304
103	P122	Waukesha Model L-7042 GSI Natural Gas Fired Internal Combustion Reciprocating Engine, 4-cycle, Turbocharged, Standard Rich Burn w/ air/fuel ratio controller; Serial No. 261947; powering a natural gas compressor	1100 HP	Non-Selective Catalytic Reduction	85WE337-1
104	P123	Waukesha Model L-7042 GSI Natural Gas Fired Internal Combustion Reciprocating Engine, 4-cycle, Turbocharged, Standard Rich Burn w/ air/fuel ratio controller; Serial No. 275444; powering a natural gas compressor	1100 HP	Non-Selective Catalytic Reduction	85WE337-2
105	P124	Waukesha Model L-7042 GSI Natural Gas Fired Internal Combustion Reciprocating Engine, 4-cycle, Turbocharged, Standard Rich Burn w/ air/fuel ratio controller; Serial No. 389017; powering a natural gas compressor	1100 HP	Non-Selective Catalytic Reduction	85WE337-3
106	P125	Waukesha Model L-7042 GSI Natural Gas Fired Internal Combustion Reciprocating Engine, 4-cycle, Turbocharged, Standard Rich Burn w/ air/fuel ratio controller; Serial No. 327603; powering a natural gas compressor	1100 HP	Non-Selective Catalytic Reduction	85WE337-4
107	P126	Waukesha Model L-7042 GSI Natural Gas Fired Internal Combustion Reciprocating Engine, 4-cycle, Turbocharged, Standard Rich Burn w/ air/fuel ratio controller; Serial No. 364768; powering a natural gas compressor	1100 HP	Non-Selective Catalytic Reduction	87WE235-1
108	P127	Waukesha Model L-7042 GU Natural Gas Fired Internal Combustion Reciprocating Engine, 4-cycle, Standard Rich Burn w/ air/fuel ratio controller; Serial No. 268013; powering a natural gas compressor	896 HP	Non-Selective Catalytic Reduction	87WE237

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AIRS Stack Number	Plant Identifier	Description	Size	Pollution Control Device	Construction Permit
109	P128	Waukesha Model L-7042 GSI Natural Gas Fired Internal Combustion Reciprocating Engine, 4-cycle, Turbocharged, Standard Rich Burn w/ air/fuel ratio controller; Serial No. 388531; powering a natural gas compressor	1100 HP	Non-Selective Catalytic Reduction	87WE190
110	P129	Waukesha Model L-7042 GSI Natural Gas Fired Internal Combustion Reciprocating Engine, 4-cycle, Standard Rich Burn w/ air/fuel ratio controller; Serial No. 368993; powering a natural gas compressor	1100 HP	Non-Selective Catalytic Reduction	96WE289
113	P132	Natural gas fired heater for heating hot oil	15.0 MMBtu/hr	None	90WE514-2
114	P133	Fractionation & NGL Gas Processing Plant subject to LDAR requirements of Subpart KKK of 40 CFR Part 60	N/A	LDAR	90WE514-1
115	P135	NGL, Propane, Butane and Y-Grade Truck Load-out or Pressurized Product Truck Loadout Rack	560 MMgallons per year	Block valves	90WE048-2
116	P136	Triethylene Glycol Dehydrator rated at 4 MMscf/day; pumps 1.0 gal of TEG per minute.	1460 MMScf/yr	None	96WE294
120	P139	Natural gas fired heater for heating hot oil	35.1 MMBtu/hr	None	None
111	P130	Ethylene glycol dehydrator	12,045 MMScf/yr	None	None

<sup>\*</sup> All horsepower (HP) values are site rated values as reported in the Title V application.

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#### **SECTION II - Specific Permit Terms**

#### 1. Internal Combustion Engines – Subject to CAM P122, P123, P124, P 125, P126, P128, P129 –Waukesha L-7042GSI 1100 HP Compressor Engines

*NOTE:* The following terms and conditions apply to each engine individually

Parameter	Permit	Compliance Limits	Compliance Emission	Monitoring	
	Conditio n Number		Factor	Method	Interval
NOx	1.1	26.55 tons/year	0.65 lb/MMBtu	Record keeping and Calculation	Monthly
СО		26.55tons/year	0.65 lb/MMBtu	12 month rolling total	
VOC		5.31 tons/year	0.13 lb/MMBtu		
Natural Gas Consumption	1.2	78.7 MMscf/year		Plant Fuel Meter 12 month rolling total	
Btu Heat Content	1.3			ASTM or other Division Approved Method	Semi- Annually
Opacity	1.4	Not to Exceed 20%		Fuel Restriction	Only Natural Gas is Used as Fuel
Operation & Maintenance	1.5				
Operating Hours	1.6			Recordkeeping	Monthly
Portable Monitoring	10			Flue Gas Analyzer	Quarterly
Air/Fuel Ratio Controller	1.7			Record keeping	Monthly
Compliance Assurance Monitoring	1.8			See Condition 11	

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Control of Emissions from Stationary and Portable engines in the 8-Hour Ozone Nonattainment Area	Non-selective catalyst reduction unit and air/fuel ratio controller required.		See Condition 1.9
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1.1 Nitrogen Oxide (NO<sub>x</sub>), Carbon Monoxide (CO), and Volatile Organic Compound (VOC) emissions from these individual engines shall not exceed the limitations stated in the Summary Table above (Colorado Construction Permits 85WE337-1, 85WE337-2, 85WE337-3, 85WE337-4, 87WE235-1, 87WE190, and 96WE289 as modified under the provisions of Section I, Condition 1.3). Except as provided for below, the emission factors listed above have been approved by the Division and shall be used to calculate emissions from these engines, as follows:

Monthly emissions of each pollutant shall be calculated by the end of the subsequent month using the above Compliance Emission Factors (CEF), the monthly natural gas consumption and the heating value, 1040 MMBTU/MMscf, of the fuel in the equation below:

 $Tons/mo = \underline{CEF (lbs/MMBtu) \ x \ Monthly \ Nat. \ Gas \ Use \ (\underline{MMscf/mo}) \ x \ Heat \ Content \ of \ Nat. \ Gas \ (\underline{MMBTU/MMscf})}{2000 \ lbs/ton}$ 

A twelve-month rolling total of emissions will be maintained in order to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve months data.

If the results of the portable analyzer testing conducted under the provisions of Section II, Condition 11 show that either the  $NO_X$  or CO emission rates/factors are greater than those listed above, and in the absence of subsequent testing results to the contrary (as approved by the Division), the permittee shall apply for a modification to this permit to reflect, at a minimum, the higher emission rates/factors within 60 days of the completion of the test.

1.2 Natural gas consumption for each engine shall not exceed the limitation established by Construction Permits 85WE337-1, 85WE337-2, 85WE337-3, 85WE337-4, 87WE235-1, 87WE190, and 96WE289 as modified under the provisions of Section I, Condition 1.3. The plant fuel meter reading shall be recorded on the first day of each new month. The fuel use for a calendar month shall be determined by

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the end of the subsequent calendar month. Allocation of fuel use to each engine shall be made as set forth in Condition 13. A twelve (12) month rolling total shall be maintained to determine compliance with annual fuel use limitation. By the end of each subsequent month a total shall be calculated for the previous twelve (12) calendar months, and compliance determined. Records of the calculations and compliance determinations shall be maintained and made available to the Division for review upon request.

- 1.3 The Btu content of the natural gas used to fuel these engines shall be verified semi-annually using the appropriate ASTM Methods or equivalent, if approved in advance by the Division. The Btu content of the natural gas shall be based on the higher heating value (HHV) of the fuel. Calculations of monthly emissions shall be made using the heat content derived from the most recent required analysis. The Btu value used by the Division in determining emission limits was 1040 Btu per standard cubic foot of natural gas (Construction Permits 85WE337-1, 85WE337-2, 85WE337-3, 85WE337-4, 87WE235-1, 87WE190, and 96WE289 as modified under the provisions of Section I, Condition 1.3).
- Opacity of emissions from the engine shall not exceed 20% (Construction Permits 85WE337-1, 85WE337-2, 85WE337-3, 85WE337-4, 87WE235-1, 87WE190, and 96WE289 as modified under the provisions of Section I, Condition 1.3). In the absence of evidence to the contrary, compliance with the 20% opacity limit shall be presumed since only natural gas is permitted to be used as fuel for the engine. The permittee shall maintain records that verify that only natural gas is used as a fuel.
- 1.5 These engines shall be operated and maintained in accordance with the manufacturer's recommendations at all times, including periods of start-up, shutdown, and malfunction.
- 1.6 The number of operating hours for each individual engine shall be recorded for each calendar month. The records shall be made available to the Division upon request.
- 1.7 The Air Fuel Ratio (AFR) millivolt reading on each engine will be monitored and recorded monthly to assess the air to fuel ratio controller operating condition. During those months when portable monitoring is scheduled, the millivolt reading and the oxygen concentration in the exhaust shall be monitored and recorded during the portable monitoring event. Recording of the millivolt reading shall be used to verify that the AFR controlled is operated in accordance with the manufacturer's recommendations
- 1.8 The source shall follow the Compliance Assurance Monitoring (CAM) requirements for each individual engine as outlined in Section II, Condition 11 of this permit within 180 days of permit issuance.

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- 1.9 Any existing natural gas-fired stationary or portable reciprocating internal combustion engine with a manufacturer's design rate greater than 500 horsepower, which existing engine was operating in the 8-hour Ozone Control (Nonattainment) Area prior to June 1, 2004, shall employ air pollution control technology on and after May 1, 2005, as provided in Condition 1.9.1.1 & 1.9.1.2 (Colorado Regulation No. 7, Section XVI.A.2).
  - 1.9.1.1 For rich burn reciprocating internal combustion engines, a non-selective catalyst reduction and an air fuel controller shall be required. A rich burn reciprocating internal combustion engine is one with a normal exhaust oxygen concentration of less than 2% by volume. (Colorado Regulation No. 7, Section XVI.B.1).
  - 1.9.1.2 The emission control equipment required by this Condition 1.9 shall be appropriately sized for the engine and shall be operated and maintained according to manufacturer specifications. (Colorado Regulation No. 7, Section XVI.B.3).

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#### 2. P120 – Waukesha F-3521GSI 450 HP Compressor Engine

#### P121 – Waukesha F-11G 125 HP Compressor Engine

#### P127 - Waukesha L-7042G 896 HP Compressor Engine

Parameter	Permit	Compliance Limits	Compliance	Monitoring	
	Condition Number		Emission Factor	Method	Interval
P120 – Waukesh	na F-3521 GSI	450-HP Compressor Eng	gine		
NOx	2.1	10.86 tons/year	0.63 lb/MMBtu	Record keeping And Calculation	Monthly
CO		10.86 tons/year	0.63 lb/MMBtu	12 month rolling total	
VOC		2.17 tons/year	0.13 lb/MMBtu		
Fuel Use	2.2	33.1 million scf/year		Plant Fuel Meter 12 month rolling total	
P121 – Waukesh	na F-11G 125 l	HP Compressor Engine			
NOx	2.1	3.02 tons/year	0.70 lb/MMBtu	Record keeping	Monthly
СО		4.22 tons/year	0.70 lb/MMBtu	And Calculation 12 month rolling total	
VOC		0.60 tons/year	0.14 lb/MMBtu		
Fuel Use	2.2	8.3 million scf/year		Plant Fuel Meter 12 month rolling total	
P127 – Waukesh	na L-7042G 89	6 HP Compressor Engin	e		
NOx	2.1	17.30 tons/year	0.52 lb/MMBtu	Record keeping	Monthly
CO		25.96 tons/year	0.78 lb/MMBtu	And Calculation  12 month rolling total	
VOC		4.33 tons/year	0.13 lb/MMBtu	12 mondi ronnig total	
Fuel Use	2.2	64.2 million scf/year		Plant Fuel Meter 12 month rolling total	
Btu Heat Content	2.3			ASTM or other Division Approved Method	Semi- Annually

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Portable Monitoring	10		Flue Gas Analyzer	Quarterly
Opacity	2.4	Not to Exceed 20%	Fuel Restriction	Only Natural Gas is Used as Fuel
Operation & Maintenance	2.5			
Operating Hours	2.6		Recordkeeping	Monthly
Air/Fuel Ratio Controller	2.7		Record keeping	Monthly
NSCR	2.8		Thermometers or thermocouple and differential pressure measurement	Monthly
Control of Emissions from Stationary and Portable engines in the 8-Hour Ozone Nonattainment Area	2.9	Non-selective catalyst reduction unit and air/fuel ratio controller required	See Condition 2.8 (Engine P127 only)	

2.1 Nitrogen Oxide (NO<sub>x</sub>), Carbon Monoxide (CO), and Volatile Organic Compound (VOC) emissions from these individual engines shall not exceed the limitations stated in the Summary Table above (Colorado Construction Permit 84WE94(2) Condition 4, 85WE304 Condition 3, and 87WE237, as modified under the provisions of Section I, Condition 1.3). Except as provided for below, the emission factors listed above have been approved by the Division and shall be used to calculate emissions from these engines, as follows:

Monthly emissions of each pollutant shall be calculated by the end of the subsequent month using the above Compliance Emission Factors (CEF), the monthly natural gas consumption and the heating value, 1040 MMBTU/MMScf, of the fuel in the equation below:

Tons/mo = <u>CEF (lbs/MMBtu) x Monthly Fuel Use (MMScf/mo) x Heat Content of Fuel (MMBTU/MMScf)</u>
2000 lbs/ton

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A twelve-month rolling total of emissions will be maintained in order to monitor compliance with the annual emission limitation. Each month, a new twelve month total shall be calculated using the previous twelve months data.

If the results of the portable analyzer testing conducted under the provisions of Section II, Condition 11 show that either the  $NO_X$  or CO emission rates/factors are greater than those listed above, and in the absence of subsequent testing results to the contrary (as approved by the Division), the permittee shall apply for a modification to this permit to reflect, at a minimum, the higher emission rates/factors within 60 days of the completion of the test.

- Fuel consumption for these engines shall not exceed the limitation established by Construction Permit 84WE94(2), 85WE304, and 87WE237, as modified under the provisions of Section I, Condition 1.3. The plant fuel meter reading shall be recorded on the first day of each new month. The fuel use for a calendar month shall be determined by the end of the subsequent calendar month. Allocation of fuel use to each engine shall be made as set forth in Condition 13. A twelve (12) month rolling total shall be maintained to determine compliance with annual fuel use limitation. By the end of each subsequent month a total shall be calculated for the previous twelve (12) calendar months, and compliance determined. Records of the calculations and compliance determinations shall be maintained. The calculation and compliance determination records shall be made available to the Division for review upon request.
- 2.3 The Btu content of the natural gas used to fuel these engines shall be verified semi-annually using the appropriate ASTM Methods or equivalent, if approved in advance by the Division. The Btu content of the natural gas shall be based on the higher heating value (HHV) of the fuel. Calculations of monthly emissions shall be made using the heat content derived from the most recent required analysis. The Btu value used by the Division in determining emission limits was 840 Btu per standard cubic foot of natural gas (Construction Permit 84WE94(2), 85WE304, and 87WE237, as modified under the provisions of Section I, Condition 1.3).
- Opacity of emissions from these engines shall not exceed 20% (Construction Permit 84WE94(2), 85WE304 and 87WE237, as modified under the provisions of Section I, Condition 1.3). In the absence of evidence to the contrary, compliance with the 20% opacity limit shall be presumed since only natural gas is permitted to be used as fuel for the engine. The permittee shall maintain records that verify that only natural gas is used as a fuel.
- 2.5 These engines shall be operated and maintained in accordance with the manufacturer's recommendations at all times, including periods of start-up, shutdown, and malfunction.

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- 2.6 The number of operating hours for each individual engine shall be recorded for each calendar month. The records shall be made available for Division review upon request.
- 2.7 The Air Fuel Ratio (AFR) millivolt reading on each engine will be monitored and recorded monthly to assess the air to fuel ratio controller operating condition. During those months when portable monitoring is scheduled, the millivolt reading and the oxygen concentration in the exhaust shall be monitored and recorded during the portable monitoring event. Recording of the millivolt reading shall be used to verify that the AFR controlled is operated in accordance with the manufacturer's recommendations.
- 2.8 The catalytic converter (NSCR) shall have the inlet temperature, inlet pressure and outlet pressure measured at least once per calendar month. The results shall be recorded and kept on-site for Division review upon request. Any replacement, servicing, or modifications of the NSCR shall be recorded. Manufacturer's recommendations shall be followed as to the temperature and pressure change needed across the NSCR to ensure proper performance. The manufacturer's values or range of values shall be indicated along with the record of the monthly readings for immediate reference.
- Any existing natural gas-fired stationary or portable reciprocating internal combustion engine with a manufacturer's design rate greater than 500 horsepower, (**Engine P127 only**) which existing engine was operating in the 8-hour Ozone Control (Nonattainment) Area prior to June 1, 2004, shall employ air pollution control technology on and after May 1, 2005, as provided in Condition 2.8.1 & 2.8.2 (Colorado Regulation No. 7, Section XVI.A.2).
  - 2.9.1 For rich burn reciprocating internal combustion engines, a non-selective catalyst reduction and an air fuel controller shall be required. A rich burn reciprocating internal combustion engine is one with a normal exhaust oxygen concentration of less than 2% by volume. (Colorado Regulation No. 7, Section XVI.B.1).
  - 2.9.2 The emission control equipment required by this Condition 2.8 shall be appropriately sized for the engine and shall be operated and maintained according to manufacturer specifications. (Colorado Regulation No. 7, Section XVI.B.3).

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#### 3. P139 – Natural Gas Fired 35.1 MMBtu/Hr Hot Oil Heater

Parameter	Permit Condition	Compliance Limits	Compliance Emission	Monitoring	
	Number		Factor	Method	Interval
Fuel Usage	3.1 3.2	292.83 MM cubic feet per year		Vendor receipts or flow meter readings 12 month rolling total	Monthly
PM	3.4		7.6 lb/MMScf	Record keeping and calculation	Monthly
PM <sub>10</sub>			7.6 lb/MMScf	12-month rolling total	
Opacity	3.3	Not to exceed 20 %		Fuel Restriction - Natural Gas	Only Natural Gas is Used as Fuel
NOx	3.2	14.64tons per year	100 lb/MMScf	Record keeping and	Monthly
СО		12.30 tons per year	84 lb/MMScf	calculation 12 month rolling total	
VOC	3.4		5.5 lb/MMScf		Annually
SO <sub>2</sub>			0.6 lb/MMScf		
40 CFR Part	3.5			Recordkeeping	As
60 Subpart Dc	3.6				necessary

- 3.1 The terms and conditions of this permit are based on the heater burning natural gas. The use of any other fuel may require the permit to be re-opened prior to any use of the fuel. The provisions of Section I, Condition 1.3, set the fuel use limits.
- 3.2 The provisions of Section I, Condition 1.3, set the emission and fuel use limits. Compliance with the emission and fuel use limits shall be determined on a calendar month basis. By the end of each subsequent month the emissions and fuel use for the previous twelve (12) calendar months shall be calculated and compliance determined. A record of the calculations and the compliance determination shall be kept on-site and made available for Division review upon request.

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- 3.3 The opacity standard was set not to exceed 20% by the provisions of Section I, Condition 1.3. In the absence of evidence to the contrary, compliance with the 20% opacity limit shall be presumed since only natural gas is permitted to be used as fuel for the heater. The permittee shall maintain records that verify that only natural gas is used as a fuel.
- 3.4 The estimated actual annual emissions of the pollutant for the previous calendar year shall be calculated by April 30 of each new calendar year. The calculations shall be kept on file and available for Division review upon request. A revised APEN shall be submitted whenever there is a significant change in the actual annual emissions of this pollutant. (Regulation 3, Part A, §II.C.2). For sources emitting less than 100 tons per year, a significant change is defined as a change in actual emissions of five tons per year or more, above the level reported on the last APEN submitted to the Division, of any such air pollutant.
- 3.5 This source is subject to Regulation No. 6, Part A, Subpart Dc (40 CFR Part 60 Subpart Dc) Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units Paragraph 60.48c (Provisions of Section I, Condition 1.3). The daily fuel record keeping requirements of Items (h) and (I) do not have any regulatory impact and require no actions.
- 3.6 This source is subject to the provisions of Regulation No. 6, Part A, Subpart A, General Provisions as follows (Provisions of Section I, Condition 1.3):
  - (i) No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere. (40 CFR Part 60 §60.12)
  - (ii) Written notification of construction and initial startup dates shall be submitted to the Division as required under 40 CFR Part 60 §60.7.
  - (iii) Records of startups, shutdowns, and malfunctions shall be maintained, as required under 40 CFR Part 60 §60.7.

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#### 4. P132 – Natural Gas Fired 15.0 MMBtu/Hr Hot Oil Heater

Parameter	Permit	Compliance Limits	Compliance	Monitoring	
	Condition Number			Method	Interval
Fuel Usage	4.1	126.35 MM cubic feet per year		Vendor receipts or flow meter readings 12 month rolling total	Monthly
PM	4.4		7.6 lb/MMScf	Record keeping and calculation	Monthly
$PM_{10}$			7.6 lb/MMScf	12-month rolling total	
Opacity	4.3	Not to exceed 20 %		Fuel Restriction - Natural Gas	Only Natural Gas is Used as Fuel
NOx	4.2	6.32 tons per year	100 lb/MMScf	Record keeping and	Monthly
СО		5.31 tons per year	84 lb/MMScf	calculation 12 month rolling total	
VOC	4.4		5.5 lb/MMScf		Annually
SO <sub>2</sub>			0.6 lb/MMScf		

- 4.1 The terms and conditions of this permit are based on the heater burning natural gas. The use of any other fuel may require the permit to be re-opened prior to any use of the fuel. The fuel use limits were set by Construction Permit 90WE514-2, modified under the provisions of Section I, Condition 1.3.
- 4.2 The emission and fuel use limits were set by Construction Permit 90WE514-2, modified under the provisions of Section I, Condition 1.3. Compliance with the emission and fuel use limits shall be determined on a calendar month basis. By the end of each subsequent month the emissions and fuel use for the previous twelve (12) calendar months shall be calculated and compliance determined. A record of the calculations and the compliance determination shall be kept on-site and made available for Division review upon request.
- 4.3 The opacity standard was set not to exceed 20% by Construction Permit 90WE514-2, modified under the provisions of Section I, Condition 1.3. In the absence of evidence to the contrary, compliance with

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the 20% opacity limit shall be presumed since only natural gas is permitted to be used as fuel for the heater. The permittee shall maintain records that verify that only natural gas is used as a fuel.

- 4.4 The estimated actual annual emissions of the pollutant for the previous calendar year shall be calculated by April 30 of each new calendar year. The calculations shall be kept on file and available for Division review upon request. A revised APEN shall be submitted whenever there is a significant change in the actual annual emissions of this pollutant. (Regulation 3, Part A, §II.C.2). For sources emitting less than 100 tons per year, a significant change is defined as a change in actual emissions of five tons per year or more, above the level reported on the last APEN submitted to the Division, of any such air pollutant.
- 4.5 This source is not subject to the requirements of the 40 CFR Part 60 New Source Performance Standards (NSPS) Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. The source APEN reports the unit was placed in service in 1987, which is prior to the Subpart Dc applicability date of June 9, 1989.

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## 5. P133 -Fugitive VOC Emissions from Fractionation and Natural Gas Liquids (NGL) Processing Plants

Parameter	Permit	tion Limits	Compliance Emission Factor	Monitoring		
Condition Number				Method	Interval	
VOC	5.1	24.1 tons per year	By Component-EPA Protocol for Equipment Leak Estimates	Initial Component Count, Recordkeeping, and Emission Calculations	Within 90 days, Ongoing Tally, Annually	
Gas Analysis				EPA/Division Approved Methods	Annual	
Leak	5.2			Per Subpart KKK Maintenance Plan		
Detection and Repair	5.3					

VOC emissions shall not exceed the limitations stated as set by Colorado Construction Permit 90WE048-1 and modified under the provisions of Section I, Condition 1.3. Emissions shall be calculated using the emission factors and equations listed below. An actual physical count of the existing components shall be performed within ninety (90) calendar days of the issuance of this operating permit. The count of the various components shall be recorded and used to establish the start of a hardware inventory. Records shall be kept of all component additions and deletions and a running tally maintained. An actual physical hard count of the existing components shall be performed at least once every five (5) calendar years. The records shall be kept at the site and made available for Division review upon request.

Emission Factors for individual types of components in lbs/component-hr from the reference <u>Protocol</u> <u>for Equipment Leak Emission Estimates</u>, <u>EPA</u>, <u>November 1995</u>, <u>EPA-453/R-95-017</u>. These emission factors are fixed until changed by established permit modification procedures. The below factors are for gas service only.

Valves	0.00992	Connectors	0.00044
Relief Valves	0.01940	Open-ended Lines	0.00441
Compressor Seals	0 .01940	Pump Seals	0.00529
Flanges	0.00086		

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Calculation of annual emissions of VOC per component:

(Component count) X (8760 hrs/year) X (Weight %VOC in organic portion of gas stream) X (Emission factor for component being evaluated) X (Control Factor)

The total fugitive VOC emissions shall be the sum of emissions for each component.

For determining compliance the Division accepted the use of a 75 percent (%) control factor for all components except the flanges/connectors. For the flanges/connectors the Division accepted the use of a 30 percent (%) control factor.

- A plant inlet gas analysis shall be performed according to appropriate ASTM approved methods, or equivalent if approved by the Division in advance, at least once a calendar year. The dates of the annual inlet gas analyses shall be separated by at least two (2) calendar months. The most recent inlet gas analysis shall be used to determine the appropriate %VOC to use in the above equation.
- 5.1.2 An initial physical hard-count of facility components will be conducted within 90 days of permit issuance to verify existing hardware inventory. Records shall be kept of all component additions and deletions and running tally maintained and made available to the Division upon request. An actual physical hard count of the existing components shall be performed at least once every five years.
- 5.2 This source is subject to 40 CFR Part 60 Section 60.630, Subpart KKK, New Source Performance Standards (NSPS) (Adopted into Colorado Regulation No. 6, Subpart KKK): Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants. The following items apply:
  - 5.2.1 Inspection and maintenance requirements as stated in Federal NSPS 40 CFR Part 60 §60.632, §60.633, and §60.634.
  - 5.2.2 Record keeping requirements as stated in Federal NSPS 40 CFR Part 60 §60.635.
  - 5.2.3 Reporting requirements as stated in Federal NSPS 40 CFR Part 60 §60.636. Reporting under this section is to be fulfilled concurrently with Appendix B compliance monitoring reporting and shall be submitted to the Division. The source shall submit a report detailing the specific applicable and nonapplicable sections of NSPS KKK to the Division within six (6) months of the permit issue date following the format in Appendix H of this Operating Permit. In addition, the

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document shall detail procedures for leak detection and leak repair for the equipment and piping subject to Subpart KKK. Any changes to the document required as a result of the Division review of the document shall be accomplished as directed in writing by the Division. The document shall be retained at the plant and reviewed at least annually by the permittee and revised as necessary. The document shall be made available for Division inspection upon request. The document may be used in a compliance evaluation and determination. The requirements of Subpart KKK include a number of options and alternatives. As a minimum the document shall detail all the applicable requirements, alternatives and options to be followed, the procedures and equipment used for the testing, the instrumentation calibration and performance requirements, action levels, actions to be taken, time frames for performing the actions, reporting requirements, and provide any additional information as might be needed to fully and completely demonstrate compliance with the Subpart KKK and Regulation No. 6, Part A, General Provisions.

- 5.3 Regulation No. 6, Part A, General Provisions applies as follows:
  - 5.3.1 No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentrations of a pollutant in the gasses discharged to the atmosphere (40 CFR Part 60 §60.12)
  - 5.3.2 Records of startups, shutdowns, and malfunctions shall be maintained, as required under 40 CFR Part 60 §60.7.

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#### 6. P135 – Pressurized Product Truck Loadout Rack

Parameter	Permit	Compliance Limits	Compliance Emission	Monitoring	
	Condition Number		Factor		Interval
VOC	6.1	43.15 tons per year		Record keeping and	Monthly
Total NGL Loaded		560 million gallons per year	100% B-G Mix used as worst-case scenario	calculation 12 month rolling total	
Leak Detection	6.2			Maintenance Plan	Per Plan

- 6.1 The emission limits were established by Colorado Construction Permit 90WE048-2, as modified under the provisions of Section II, Condition 1.3. The emissions of VOC and the gallons of NGL loaded on trucks for each calendar month shall be calculated by the end of the subsequent calendar month. A twelve-month rolling total of emissions shall be maintained to verify compliance with the long-term emission limitation. By the end of the new calendar month, a total shall be calculated for the previous twelve (12) calendar months, and compliance determined and recorded. All calculations and compliance determinations shall be made available for Division review upon request.
- A maintenance plan shall be developed that outlines the procedures to locate and repair equipment leaks to minimize the fugitive volatile organic compound emissions. The maintenance plan shall be completed and in use within six (6) months of the issuance of this operating permit. The plan shall be kept on-site and made available for Division review upon request.

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# 7. P130 – Ethylene Glycol Regeneration Unit

Parameter	Permit	Limitations	Compliance	Monitoring	
	Condition Number		Emission Factor	Method	Interval
VOC	7.1	6.50 tons per year	Based on Input to GLYCalc Model	Modeling Results 12 month rolling total	Quarterly
Gas Processed	7.2	12,045 million cubic feet per year		Flow Meter	Monthly
Glycol Circulation Rate	7.1	6.0 gallons per minute		Record keeping and calculation	Monthly
Gas Analysis	7.1			EPA/Division Approved Methods	Annually
Unit Operation	7.3			See Condition 8.3	

7.1 An extended analysis of the natural gas delivered to the glycol dehydration unit shall be performed according to appropriate ASTM approved methods, or equivalent if approved by the Division in advance, by the end of the calendar year.

Emissions of volatile organic compounds and hazardous air pollutants shall be calculated for each quarterly interval using the Gas Research Institute's GLYCalc Version 4.0 or higher. The analysis shall be completed within the end of the calendar month immediately following the end of the quarterly interval. The natural gas throughput, ethylene glycol circulation rate, inlet gas pressure and inlet gas temperature for the dehydrator shall be recorded for at least one (1) calendar day for each calendar month. The recorded input values from the most recent calendar month and the most recent extended gas analysis shall be used for the calendar quarter GLYCalc calculation. Copies of the gas analysis and the computer model output shall be kept on-site and available for Division review upon request.

The extended gas analysis shall be completed by the end of the calendar month immediately following the end of the annual test period. Copies of all test results shall be kept on-site and available for Division review upon request.

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- 7.2 The gas throughput for the dehydration unit shall be recorded monthly on the first day of each calendar month using the existing flow meter(s). The gas throughput and emission limits were established by the provisions of Section II, Condition 1.3. Compliance with the annual limits shall be monitored on a rolling twelve (12) calendar month total. By the end of each subsequent month a total shall be calculated for the previous twelve m(12) calendar months and compliance with the annual limits shall be determined. The calculations and compliance determinations shall be kept on file and made available for Division review upon request.
- 7.3 This unit shall be operated and maintained in accordance with manufacturer's recommendations and good engineering practices.

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# 8. P136 – Triethylene Glycol Natural Gas Dehydrator

Parameter	Permit	Limitations	Compliance	Monitoring	
Condition Number			Emission Factor	Method	Interval
VOC	8.1	9.92 tons per year	Based on rich/lean glycol analysis and calculations	12 month rolling total	Semi-annual
Glycol Circulation Rate	8.1	1.0 gallons per minute		Record keeping and calculation	Monthly
Natural gas throughput	8.2	1,460.0 MMSCF/year (wet natural gas)		Flow Meter	Monthly
Unit Operation	8.3			See Condition 9.3	
Part 63 Subpart HH Requirements	8.4	See Condition 9.4		As Specified	Annual
Rich/lean Glycol Analysis	8.5	See Table in Condition 9.5		ASTM approved methods	Semi-annual
Benzene Emission Quantification	8.6	See Conditions 9.4 and 9.6	Based on GRI- GlyCalc or direct measurements	Sampling	Annual

8.1 A rich/lean analysis of the triethylene glycol shall be performed according to appropriate ASTM approved methods, or equivalent if approved by the Division in advance, on a semi-annual basis.

Emissions of volatile organic compounds and hazardous air pollutants shall be calculated for each semi-annual interval using rich and lean VOC weight percentages, recirculation rate, and the triethylene glycol density. The analysis shall be completed within the end of the calendar month immediately following the end of the semi-annual interval. The natural gas throughput, triethylene glycol circulation rate, inlet gas pressure and inlet gas temperature for the dehydrator shall be recorded for at least one (1) calendar day for each calendar month. The most recent rich/lean glycol analysis shall be used for the calendar semi-annual calculation. Copies of the rich/lean glycol analysis and corresponding emission calculations shall be kept on-site and available for Division review upon request.

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- 8.2 The gas throughput for the dehydration unit shall be recorded monthly on the first day of each calendar month using the existing flow meter(s). The gas throughput and emission limits were established by the provisions of Section II, Condition 1.3. Compliance with the annual limits shall be monitored on a rolling twelve (12) calendar month total. By the end of each subsequent month a total shall be calculated for the previous twelve m(12) calendar months and compliance with the annual limits shall be determined. The calculations and compliance determinations shall be kept on file and made available for Division review upon request.
- 8.3 This unit shall be operated and maintained in accordance with manufacturer's recommendations and good engineering practices.
- 8.4 This source is subject to 40 CFR Part 63 Section 63.764, Subpart HH, National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. The following items apply:
  - 8.4.1 This source is exempt from all major source requirements as stated in Federal NSPS 40 CFR Part 63 §63.764(e)(1) if the criteria in paragraph §63.764 (e)(1)(ii) are met, but is still subject to records of the determination of these criteria that must be maintained as required in §63.774(d)(1).
  - 8.4.2 An owner or operator of this glycol dehydration unit that meets the exemption criteria in §63.764(e)(1)(i) or §63.764(e)(1)(ii) shall maintain the records specified in paragraph (d)(1)(i) or paragraph (d)(1)(ii) of this section, as appropriate, for that glycol dehydration unit as stated in Federal NSPS 40 CFR 63 §63.764 (d)(1).
    - 8.4.2.1 The actual annual average natural gas throughput (in terms of natural gas flowrate to the glycol dehydration unit per day) as determined in accordance with §63.772(b)(1) as stated in Federal NSPS 40 CFR 63 §63.764(e)(1)(i) OR:
    - 8.4.2.2 The actual average benzene emissions (in terms of benzene emissions per year) as determined in accordance with §63.772(b)(2) as stated in Federal NSPS 40 CFR 63 §63.764(e)(1)(ii).
- 8.5 Samples of rich and lean glycol shall be collected and analyzed semi-annually to determine C<sub>1</sub> to C<sub>6</sub>, n-hexane, benzene, toluene, ethyl benzene and total xylene (BTEX) composition. If any of the analyses indicates the BTEX or n-hexane constituent concentrations exceed the values listed in the table below, frequency of rich/lean glycol analyses will revert to monthly. The first monthly sample shall be taken within a month after the sample that indicated a BTEX or n-hexane constituent exceeded the parameters in the table was taken. At least three (3) monthly samples shall be taken before returning to a semi-

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annual sampling frequency. The BTEX or n-hexane values listed in the table shall be set at or below the values used in the most recent rich/lean glycol analysis (July 21, 2008).

Component	Value	Criteria
Benzene Content of Glycol	10 ppm	At or Below
Toluene Content of Glycol	10 ppm	At or Below
Ethyl Benzene Content of Glycol	10 ppm	At or Below
Xylene Content of Glycol	10 ppm	At or Below
n-Hexane Content of Glycol	1,069 ppm**	At or Below

<sup>\*\*</sup>Based on difference of rich and lean n-hexane concentrations with 10% error buffer.

- 8.6 The determination of actual average benzene emissions from this glycol dehydration unit shall be made using the procedures of either paragraph Federal NSPS 40 CFR Part 63 §63.772(b)(2)(i) or (b)(2)(ii) of this section. Emissions shall be determined either uncontrolled, or with federally enforceable controls in place. Please note that benzene emissions for the MACT HH applicability determination will be calculated using GLYCalc; however, VOC emissions for enforceable permit limits are calculated using rich/lean glycol sampling as described in Condition 9.1.
  - 8.6.1 The owner or operator shall determine actual average benzene emissions using the model GRI-GLYCalc<sup>TM</sup> Version 4.0 or higher, and the procedures presented in the associated GRI-GLYCalc<sup>TM</sup> Technical Reference Manual. Inputs to the model shall be representative of actual operating conditions of the glycol dehydration unit using the most recent gas analysis and may be determined using the procedures documented in the Gas Research Institute (GRI) report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions" (GRI–95/0368.1) as stated in Federal NSPS 40 CFR Part 63 §63.772(b)(2)(i) OR:
  - 8.6.2 The owner or operator shall determine an average mass rate of benzene emissions in kilograms per hour through direct measurement using the methods in §63.772(a)(1)(i) or (ii), or an alternative method according to §63.7(f). Annual emissions in kilograms per year shall be determined by multiplying the mass rate by the number of hours the unit is operated per year. This result shall be converted to megagrams per year as stated in Federal MACT 40 CFR Part 63 §63.772(b)(2)(ii).

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# 9. Compliance Assurance Monitoring

- 9.1 The Compliance Assurance Monitoring (CAM) requirements in 40 CFR Part 64, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV, apply to the seven (7) Waukesha Model L-7042 GSI engines (1,100 HP) with respect to the NO<sub>x</sub> and CO limitations identified in Section II, Condition 1.1, as follows:
  - 9.1.1 For the engines, the permittee shall follow the CAM Plan provided in Appendix G of this permit. Excursions, for purposes of reporting, are any time the thermocouple temperature indicates a temperature less than 750° F or greater than 1250° F, or a pressure drop across the catalyst of more than 3 inches of water from the pressure drop measured during the performance test. Excursions shall be reported as required by Section IV, Conditions 21 and 22.d of this permit.
  - 9.1.2 Operation of Approved Monitoring
    - 9.1.2.1 At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment (40 CFR Part 64 § 64.7(b), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
    - 9.1.2.2 Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of these CAM requirements, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions (40 CFR Part 64 § 64.7I, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
    - 9.1.2.3 Response to excursions or exceedances

a. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated

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capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable (40 CFR Part 64 § 64.7(d)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).

- b. Determination of whether the owner of operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process (40 CFR Part 64 § 64.7(d)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.1.2.4 After approval of the monitoring required under the CAM requirements, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the Division and, if necessary submit a proposed modification for this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters (40 CFR Part 64 § 64.7(e), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.1.3 Quality Improvement Plan (QIP) Requirements
  - 9.1.3.1 Based on the results of a determination made under the provisions of Condition 10.1.2.3.b, the Division may require the owner or operator to develop and implement a QIP (40 CFR Part 64 § 64.8(a), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
  - 9.1.3.2 The owner or operator shall maintain a written QIP, if required, and have it available for inspection (40 CFR Part 64 § 64.8(b)(1), as adopted by reference in Colorado Regulation

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No. 3, Part C, Section XIV).

- 9.1.3.3 The QIP initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:
- a. Improved preventative maintenance practices (40 CFR Part 64 § 64.8(b)(2)(i), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- b. Process operation changes (40 CFR Part 64 § 64.8(b)(2)(ii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- c. Appropriate improvements to control methods (40 CFR Part 64 § 64.8(b)(2)(iii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- d. Other steps appropriate to correct control performance (40 CFR Part 64 § 64.8(b)(2)(iv), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- e. More frequent or improved monitoring (only in conjunction with one or more steps under Conditions 6.1.3.3.a through d above) (40 CFR Part 64 § 64.8(b)(2)(v), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.1.3.4 If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined (40 CFR Part 64 § 64.8I, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.1.3.5 Following implementation of a QIP, upon any subsequent determination pursuant to Condition 10.1.2.3.b, the Division or the U.S. EPA may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:
- a. Failed to address the cause of the control device performance problems (40 CFR Part 64 § 64.8(d)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV); or
- b. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control

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practices for minimizing emissions (40 CFR Part 64 § 64.8(d)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).

- 9.1.3.6 Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the federal clean air act (40 CFR Part 64 § 64.8(e), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.2 Reporting and Recordkeeping Requirements
  - 9.2.1 <u>Reporting Requirements:</u> The reports required by Section IV, Condition 22.d, shall contain the information specified in Appendix B of the permit and the following information, as applicable:
    - a. Summary information on the number, duration and cause (including unknown cause, if applicable), for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable) ((40 CFR Part 64 § 64.9(a)(2)(ii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV); and
    - b. The owner or operator shall submit, if necessary, a description of the actions taken to implement a QIP during the reporting period as specified in Condition 10.1.3 of this permit. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring (40 CFR Part 64 § 64.9(a)(2)(iii), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
  - 9.2.2 <u>General Recordkeeping Requirements</u>: In addition to the recordkeeping requirements in Section IV, Condition 22.a through c.
    - a. The owner or operator shall maintain records of any written QIP required pursuant to Condition 10.1.3 and any activities undertaken to implement a QIP, and any supporting information required to be maintained under these CAM requirements (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions) (40 CFR Part 64 § 64.9(b)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).

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b. Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements (40 CFR Part 64 § 64.9(b)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).

# 9.3 Savings Provisions

- 9.3.1 Nothing in these CAM requirements shall excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the federal clean air act. These CAM requirements shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purposes of determining the monitoring to be imposed under separate authority under the federal clean air act, including monitoring in permits issued pursuant to title I of the federal clean air act. The purpose of the CAM requirements is to require, as part of the issuance of this Title V operating permit, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of CAM (40 CFR Part 64 § 64.10(a)(1), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.3.2 Nothing in these CAM requirements shall restrict or abrogate the authority of the U.S. EPA or the Division to impose additional or more stringent monitoring, recordkeeping, testing or reporting requirements on any owner or operator of a source under any provision of the federal clean air act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable (40 CFR Part 64 § 64.10(a)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV).
- 9.3.3 Nothing in these CAM requirements shall restrict or abrogate the authority of the U.S. EPA or the Division to take any enforcement action under the federal clean air act for any violation of an applicable requirement or of any person to take action under section 304 of the federal clean air act (40 CFR Part 64 § 64.10(a)(2), as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV)

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# 10. Portable Monitoring (version 6/1/2006)

10.1 Emission measurements of nitrogen oxides (NO<sub>X</sub>) and carbon monoxide (CO) shall be conducted quarterly using a portable flue gas analyzer. At least one calendar month shall separate the quarterly tests. Note that if the engine is operated for less than 100 hrs in any quarterly period, then the portable monitoring requirements do not apply.

All portable analyzer testing required by this permit shall be conducted using the Division's Portable Analyzer Monitoring Protocol (ver March 2006 or newer) as found on the Division's website at: <a href="http://www.cdphe.state.co.us/ap/down/portanalyzeproto.pdf">http://www.cdphe.state.co.us/ap/down/portanalyzeproto.pdf</a>

Results of the portable analyzer tests shall be used to monitor the compliance status of this unit. For comparison with an annual or short-term emission limit, the results of the tests shall be converted to a lb/hr basis and multiplied by the allowable operating hours in the month or year (whichever applies) in order to monitor compliance. If a source is not limited in its hours of operation the test results will be multiplied by the maximum number of hours in the month or year (8760), whichever applies.

If the portable analyzer results indicate compliance with both the  $NO_X$  and CO emission limitations, in the absence of credible evidence to the contrary, the source may certify that the engine is in compliance with both the  $NO_X$  and CO emission limitations for the relevant time period.

Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, if the portable analyzer results fail to demonstrate compliance with either the  $NO_X$  or CO emission limitations, the engine will be considered to be out of compliance from the date of the portable analyzer test until a portable analyzer test indicates compliance with both the  $NO_X$  and CO emission limitations or until the engine is taken offline.

For comparison with the emission rates/factors, the emission rates/factors determined by the portable analyzer tests and approved by the Division shall be converted to the same units as the emission rates/factors in the permit. If the portable analyzer tests shows that either the  $NO_X$  or CO emission rates/factors are greater than the relevant ones set forth in the permit, and in the absence of subsequent testing results to the contrary (as approved by the Division), the permittee shall apply for a modification to this permit to reflect, at a minimum, the higher emission rate/factor within 60 days of the completion of the test.

Results of all tests conducted shall be kept on site and made available to the Division upon request.

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10.1.1 The outlet oxygen content of the exhaust stream shall be measured during portable monitoring when measurement of the outlet CO content is being conducted.

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# 11. General Operation

At all times, including periods of start-up, shutdown, and malfunction, the plant and control equipment shall, to the extent practicable, be maintained and operated in a manner consistent with good air pollution prevention and control practices for minimizing emissions. Determination of whether or not acceptable operating and maintenance procedures are being used will be based on information available to the Division, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source (provisions of Section II, Condition 1.3).

#### 12. Calculations

The following procedure shall be followed for calculation of the emissions.

# REQUIRED METHOD FOR FUEL CONSUMPTION ALLOCATION AND CALCULATION OF FUEL BASED EMISSION FACTOR

The methods outlined will be used to calculate fuel use and criteria pollutant emissions from fuel burning equipment

## A) FUEL BASED EMISSION FACTOR

$$Emission \ Factor \qquad \left(\frac{lbs}{MMBtu}\right) = \frac{Emission \ Factor \ X \ (pounds \ to \ grams \ conversion) \ x \ 1 \ million}{Design \ Heat \ Rate}$$

EmissionFactor 
$$\left(\frac{lbs}{MMBtu}\right) = \frac{grams}{hp - hr} X \frac{hp - hr}{Btu} X \frac{pounds}{453.6 \ grams} X \frac{10^6}{MM}$$

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Unit Site Rated Number Horse Power		Emission Factors in Grams/hp-hr			Design Heat	
	NOx	СО	VOC	Rate Btu/hp-hr	Design Rate, MMBtu/hr	
P122	1100	2.5	2.5	0.5	8491	9.34
P123	1100					
P124	1100					
P125	1100					
P126	1100					
P128	1100					
P129	1100					
P120	450				8751	3.94
P121	125				7920	0.99
P127	896	2.0	3.0	1.5	8482	7.60

# B) FUEL ALLOCATION TO INDIVIDUAL FUEL BURNING EQUIPMENT

Individual Fuel Consumption =

 $\frac{(Design \ Heat \ Rate \ X \ Hours \ of \ Operation \ X \ Site \ Rated \ Horesepower) \ for FBE}{\sum\limits_{i=1}^{N} \ (Design \ Heat \ Rate \ X \ Hours \ of \ Operation \ X \ Site \ Rated \ Horsepower) \ for \ all \ FBE}$ 

FBE = fuel burning equipment

## C) EMISSIONS CALCULATION

Emissions  $\left(\frac{Tons}{Month}\right) = \left(\frac{FuelUse}{month}\right)X$  (Fuel Heat Content) X (Emission Factor) X  $\frac{Ton}{2000 \ pounds}$ 

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Emissions 
$$\left(\frac{Tons}{Month}\right) = \frac{MMscf}{month} X \frac{Btu}{scf} X \frac{pounds}{MMBtu} X \frac{Ton}{2000 pounds}$$

## CALCULATIONS OF EMISSIONS FROM FLUE GAS PORTABLE MONITOR MEASUREMENTS

The methods outlined will be used to calculate the nitrogen oxide and carbon monoxide criteria pollutant emissions from internal combustion engines from the values measured by the portable flue gas monitors.

Stack flow data will be based on EPA Method 19 "F" factors for natural gas combustion. The portable monitor values are presented as ppmv dry. From Method 19, Table 19-1 F<sub>d</sub> for natural gas equals 8710 dry standard cubic feet per million Btu (8710 scf/MMBtu)

Exhaust Flow Rate, 
$$\frac{scf}{hour} = 8710 \frac{scf}{MMBtu} X$$
 Fuel consumption,  $\frac{MMBtu}{hour} X \frac{20.95\%}{20.95\% - O_2\%}$ 

 $O_2$  = Oxygen measured in stack at time of testing.

Fuel consumption will be from the measured total fuel use data collected for the plant and apportioned to each compressor engine as described in the previous section. The standard cubic feet per hour (scf/hour) will be converted to million Btu per hour (MMBtu/hour) utilizing the following equation:

Fuel Consumption, 
$$\frac{MMBtu}{Hour} = Fuel Consumption$$
,  $\frac{scf}{hour} X \frac{Btu}{scf} X$  1,000,000

The heat content of the fuel (Btu/scf) will be from the most recent fuel analysis.

The measured pollutant concentration in ppm by volume (ppmv) must first be converted to pounds per standard cubic foot of exhaust gas and then to pounds per hour.

$$\frac{Pounds}{scf} = \frac{measured\ ppmv}{1,000,000} \quad X\ mol\ weight,\ \frac{pound}{pound-mol}\ X\ \frac{pound-mol}{385.33\ scf}$$

From Ideal Gas law with adjustment for altitude = 385.33 standard cubic foot per pound-mol Mol weight of CO = 28.00 Mol weight of NOx = 46.07

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## **SECTION III - Permit Shield**

Regulation No. 3, 5 CCR 1001-5, Part A, § I.B.43; Part C, §§ V.C.1.b. & D., XIII; §§ 25-7-111(2)(I), 25-7-114.4(3)(a), C.R.S.

# 1. Specific Conditions

The following parameters and requirements have been specifically identified as non-applicable to the plant to which this permit has been issued:

Emission Unit Description & Number	Applicable Requirement	Justification
P120 Waukesha F-3521 GSI 450 HP P121 Waukesha F-1197 GU 125 HP	Reg 1.III.A.1.b - Particulate emissions from fuel-burning equipment	Internal combustion engines are not considered fuel burning equipment for the applicable requirements of Regulation 1.
P122 Waukesha L-7042 GSI 1100 HP	Reg 1.VI.B.5.a - Sulfur dioxide emissions from fuel-	
P123 Waukesha L-7042 GSI 1100 HP	burning equipment	
P124 Waukesha L-7042 GSI 1100 HP		
P125 Waukesha L-7042 GSI 1100 HP		
P126 Waukesha L-7042 GSI 1100 HP		
P127 Waukesha L-7042 GSI 896 HP		
P128 Waukesha L-7042 GSI 1100 HP		
P129 Waukesha L-7042 GSI 1100 HP		

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Emission Unit Description & Number	Applicable Requirement	Justification
Plant-Wide	Reg 3.B.IV.D.3 - PSD Review Requirements	Activities at this site have not yet required Prevention of Significant Deterioration (PSD) review or permitting.
	Reg 3.B.X - Air Quality Modeling	Activities at this site have not resulted in the plant being classified as a major source for PSD, nor has there been any major modification.
	Reg 3.B.XI Visibility Requirements	The plant has not been identified as a source that may impact the visibility in a Federal Class I area.
	Reg 4 - Wood Burning Stoves	This plant does not include any wood burning stoves or wood burning appliances, or advertise, or sell such devices.
	Reg 6 Part A - Adoption of Federal NSPS Requirements	None of these provisions currently apply to any of the sources at the plant.
	Reg 7 V.C	The plant is not a gasoline terminal, bulk gasoline plant or the type of gasoline dispensing plant subject to the provisions.
	Reg 7 VI.B.1	These provisions apply to the storage of petroleum liquids in tanks with
	Reg 7 VI.B.2	greater than 40,000 gallons capacity.
	Storage of Petroleum Distillates	
	Reg 7 VII.C - Crude Oil Storage	These provision apply to the storage of crude oil in tanks with greater than 40,000 gallons capacity.
	Reg 10 - SIP Rules	Conformity of federal actions to SIPs and FIPs

## 2. General Conditions

Compliance with this Operating Permit shall be deemed compliance with all applicable requirements specifically identified in the permit and other requirements specifically identified in the permit as not applicable to the source. This permit shield shall not alter or affect the following:

- 2.1 The provisions of §§ 25-7-112 and 25-7-113, C.R.S., or § 303 of the federal act, concerning enforcement in cases of emergency;
- 2.2 The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance.

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- 2.3 The applicable requirements of the federal Acid Rain Program, consistent with § 408(a) of the federal act;
- 2.4 The ability of the Air Pollution Control Division to obtain information from a source pursuant to § 25-7-111(2)(I), C.R.S., or the ability of the Administrator to obtain information pursuant to § 114 of the federal act;
- 2.5 The ability of the Air Pollution Control Division to reopen the Operating Permit for cause pursuant to Regulation No. 3, Part C, § XIII.
- 2.6 Sources are not shielded from terms and conditions that become applicable to the source subsequent to permit issuance.

## 3. Streamlined Conditions

3.7 The following applicable requirements have been subsumed within this operating permit using the pertinent streamlining procedures approved by the U.S. EPA. For purposes of the permit shield, compliance with the listed permit conditions will also serve as a compliance demonstration for purposes of the associated subsumed requirements. No applicable requirements were streamlined out of this permit.

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## Section IV - General Permit Conditions (Ver. 02/20/07)

#### 1. Administrative Changes

## Regulation No. 3, 5 CCR 1001-5, Part A, 'III.

The permittee shall submit an application for an administrative permit amendment to the Division for those permit changes that are described in Regulation No. 3, Part A, 'I.B.1. The permittee may immediately make the change upon submission of the application to the Division.

## 2. Certification Requirements

## Regulation No. 3, 5 CCR 1001-5, Part C, " III.B.9., V.C.16.a. & e. and V.C.17.

- a. Any application, report, document and compliance certification submitted to the Air Pollution Control Division pursuant to Regulation No. 3 or the Operating Permit shall contain a certification by a responsible official of the truth, accuracy and completeness of such form, report or certification stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- b. All compliance certifications for terms and conditions in the Operating Permit shall be submitted to the Air Pollution Control Division at least annually unless a more frequent period is specified in the applicable requirement or by the Division in the Operating Permit.
- c. Compliance certifications shall contain:
  - (i) the identification of each permit term and condition that is the basis of the certification;
  - (ii) the compliance status of the source;
  - (iii) whether compliance was continuous or intermittent;
  - (iv) method(s) used for determining the compliance status of the source, currently and over the reporting period; and
  - (v) such other facts as the Air Pollution Control Division may require to determine the compliance status of the source.
- d. All compliance certifications shall be submitted to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit.
- e. If the permittee is required to develop and register a risk management plan pursuant to § 112(r) of the federal act, the permittee shall certify its compliance with that requirement; the Operating Permit shall not incorporate the contents of the risk management plan as a permit term or condition.

#### 3. Common Provisions

Common Provisions Regulation, 5 CCR 1001-2 §§ II.A., II.B., II.C., II, E., II.F., II.I, and II.J

a. To Control Emissions Leaving Colorado

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When emissions generated from sources in Colorado cross the State boundary line, such emissions shall not cause the air quality standards of the receiving State to be exceeded, provided reciprocal action is taken by the receiving State.

b. Emission Monitoring Requirements

The Division may require owners or operators of stationary air pollution sources to install, maintain, and use instrumentation to monitor and record emission data as a basis for periodic reports to the Division.

c. Performance Testing

The owner or operator of any air pollution source shall, upon request of the Division, conduct performance test(s) and furnish the Division a written report of the results of such test(s) in order to determine compliance with applicable emission control regulations.

Performance test(s) shall be conducted and the data reduced in accordance with the applicable reference test methods unless the Division:

- (i) specifies or approves, in specific cases, the use of a test method with minor changes in methodology;
- (ii) approves the use of an equivalent method;
- (iii) approves the use of an alternative method the results of which the Division has determined to be adequate for indicating where a specific source is in compliance; or
- (iv) waives the requirement for performance test(s) because the owner or operator of a source has demonstrated by other means to the Division's satisfaction that the affected facility is in compliance with the standard. Nothing in this paragraph shall be construed to abrogate the Commission's or Division's authority to require testing under the Colorado Revised Statutes, Title 25, Article 7, and pursuant to regulations promulgated by the Commission.

Compliance test(s) shall be conducted under such conditions as the Division shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Division such records as may be necessary to determine the conditions of the performance test(s). Operations during period of startup, shutdown, and malfunction shall not constitute representative conditions of performance test(s) unless otherwise specified in the applicable standard.

The owner or operator of an affected facility shall provide the Division thirty days prior notice of the performance test to afford the Division the opportunity to have an observer present. The Division may waive the thirty day notice requirement provided that arrangements satisfactory to the Division are made for earlier testing.

The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

- (i) Sampling ports adequate for test methods applicable to such facility;
- (ii) Safe sampling platform(s);
- (iii) Safe access to sampling platform(s); and

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(iv) Utilities for sampling and testing equipment.

Each performance test shall consist of at least three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of results of at least three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Division's approval, be determined using the arithmetic mean of the results of the two other runs.

Nothing in this section shall abrogate the Division's authority to conduct its own performance test(s) if so warranted.

d. Affirmative Defense Provision for Excess Emissions during Malfunctions

Note that until such time as the U.S. EPA approves this provision into the Colorado State Implementation Plan (SIP), it shall be enforceable only by the State.

An affirmative defense to a claim of violation under these regulations is provided to owners and operators for civil penalty actions for excess emissions during periods of malfunction. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of evidence that:

- (i) The excess emissions were caused by a sudden, unavoidable breakdown of equipment, or a sudden, unavoidable failure of a process to operate in the normal or usual manner, beyond the reasonable control of the owner or operator;
- (ii) The excess emissions did not stem from any activity or event that could have reasonably been foreseen and avoided, or planned for, and could not have been avoided by better operation and maintenance practices;
- (iii) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded;
- (iv) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;
- (v) All reasonably possible steps were taken to minimize the impact of the excess emissions on ambient air quality;
- (vi) All emissions monitoring systems were kept in operation (if at all possible);
- (vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence;
- (viii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- (ix) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This section is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement; and
- During the period of excess emissions, there were no exceedances of the relevant ambient air quality standards established in the Commissions' Regulations that could be attributed to the emitting source.

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The owner or operator of the facility experiencing excess emissions during a malfunction shall notify the division verbally as soon as possible, but no later than noon of the Division's next working day, and shall submit written notification following the initial occurrence of the excess emissions by the end of the source's next reporting period. The notification shall address the criteria set forth above.

The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

The Affirmative Defense Provision does not apply to failures to meet federally promulgated performance standards or emission limits, including, but not limited to, new source performance standards and national emission standards for hazardous air pollutants. The affirmative defense provision does not apply to state implementation plan (sip) limits or permit limits that have been set taking into account potential emissions during malfunctions, including, but not necessarily limited to, certain limits with 30-day or longer averaging times, limits that indicate they apply during malfunctions, and limits that indicate they apply at all times or without exception.

#### e. Circumvention Clause

A person shall not build, erect, install, or use any article, machine, equipment, condition, or any contrivance, the use of which, without resulting in a reduction in the total release of air pollutants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of this regulation. No person shall circumvent this regulation by using more openings than is considered normal practice by the industry or activity in question.

#### f. Compliance Certifications

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in the Colorado State Implementation Plan, nothing in the Colorado State Implementation Plan shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. Evidence that has the effect of making any relevant standard or permit term more stringent shall not be credible for proving a violation of the standard or permit term.

When compliance or non-compliance is demonstrated by a test or procedure provided by permit or other applicable requirement, the owner or operator shall be presumed to be in compliance or non-compliance unless other relevant credible evidence overcomes that presumption.

g. Affirmative Defense Provision for Excess Emissions During Startup and Shutdown

An affirmative defense is provided to owners and operators for civil penalty actions for excess emissions during periods of startup and shutdown. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of the evidence that:

- (i) The periods of excess emissions that occurred during startup and shutdown were short and infrequent and could not have been prevented through careful planning and design;
- (ii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation or maintenance;
- (iii) If the excess emissions were caused by a bypass (an intentional diversion of control equipment), then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

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- (iv) The frequency and duration of operation in startup and shutdown periods were minimized to the maximum extent practicable;
- (v) All possible steps were taken to minimize the impact of excess emissions on ambient air quality;
- (vi) All emissions monitoring systems were kept in operation (if at all possible);
- (vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence; and,
- (viii) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This subparagraph is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement.

The owner or operator of the facility experiencing excess emissions during startup and shutdown shall notify the Division verbally as soon as possible, but no later than two (2) hours after the start of the next working day, and shall submit written quarterly notification following the initial occurrence of the excess emissions. The notification shall address the criteria set forth above.

The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

The Affirmative Defense Provision does not apply to State Implementation Plan provisions or other requirements that derive from new source performance standards or national emissions standards for hazardous air pollutants, or any other federally enforceable performance standard or emission limit with an averaging time greater than twenty-four hours. In addition, an affirmative defense cannot be used by a single source or small group of sources where the excess emissions have the potential to cause an exceedance of the ambient air quality standards or Prevention of Significant Deterioration (PSD) increments.

In making any determination whether a source established an affirmative defense, the Division shall consider the information within the notification required above and any other information the Division deems necessary, which may include, but is not limited to, physical inspection of the facility and review of documentation pertaining to the maintenance and operation of process and air pollution control equipment.

#### 4. Compliance Requirements

## Regulation No. 3, 5 CCR 1001-5, Part C, "III.C.9., V.C.11. & 16.d. and '25-7-122.1(2), C.R.S.

- a. The permittee must comply with all conditions of the Operating Permit. Any permit noncompliance relating to federally-enforceable terms or conditions constitutes a violation of the federal act, as well as the state act and Regulation No. 3. Any permit noncompliance relating to state-only terms or conditions constitutes a violation of the state act and Regulation No. 3, shall be enforceable pursuant to state law, and shall not be enforceable by citizens under § 304 of the federal act. Any such violation of the federal act, the state act or regulations implementing either statute is grounds for enforcement action, for permit termination, revocation and reissuance or modification or for denial of a permit renewal application.
- b. It shall not be a defense for a permittee in an enforcement action or a consideration in favor of a permittee in a permit termination, revocation or modification action or action denying a permit renewal application that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- c. The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of any request by the permittee for a permit modification, revocation and reissuance, or termination, or any notification of planned changes or anticipated noncompliance does not stay any permit condition, except as provided in §§ X. and XI. of Regulation No. 3, Part C.

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- d. The permittee shall furnish to the Air Pollution Control Division, within a reasonable time as specified by the Division, any information that the Division may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Division copies of records required to be kept by the permittee, including information claimed to be confidential. Any information subject to a claim of confidentiality shall be specifically identified and submitted separately from information not subject to the claim.
- e. Any schedule for compliance for applicable requirements with which the source is not in compliance at the time of permit issuance shall be supplemental, and shall not sanction noncompliance with, the applicable requirements on which it is based.
- f. For any compliance schedule for applicable requirements with which the source is not in compliance at the time of permit issuance, the permittee shall submit, at least every 6 months unless a more frequent period is specified in the applicable requirement or by the Air Pollution Control Division, progress reports which contain the following:
  - (i) dates for achieving the activities, milestones, or compliance required in the schedule for compliance, and dates when such activities, milestones, or compliance were achieved; and
  - (ii) an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.
- g. The permittee shall not knowingly falsify, tamper with, or render inaccurate any monitoring device or method required to be maintained or followed under the terms and conditions of the Operating Permit.

## 5. Emergency Provisions

#### Regulation No. 3, 5 CCR 1001-5, Part C, 'VII

An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed the technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. "Emergency" does not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. An emergency constitutes an affirmative defense to an enforcement action brought for noncompliance with a technology-based emission limitation if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. an emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. the permitted facility was at the time being properly operated;
- c. during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- d. the permittee submitted oral notice of the emergency to the Air Pollution Control Division no later than noon of the next working day following the emergency, and followed by written notice within one month of the time when emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

This emergency provision is in addition to any emergency or malfunction provision contained in any applicable requirement.

## 6. Emission Standards for Asbestos

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#### Regulation No. 8, 5 CCR 1001-10, Part B

The permittee shall not conduct any asbestos abatement activities except in accordance with the provisions of Regulation No. 8, Part B, "emission standards for asbestos."

#### 7. Emissions Trading, Marketable Permits, Economic Incentives

#### Regulation No. 3, 5 CCR 1001-5, Part C, 'V.C.13.

No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are specifically provided for in the permit.

#### 8. Fee Payment

#### C.R.S. §§ 25-7-114.1(6) and 25-7-114.7

- a. The permittee shall pay an annual emissions fee in accordance with the provisions of C.R.S. § 25-7-114.7. A 1% per month late payment fee shall be assessed against any invoice amounts not paid in full on the 91st day after the date of invoice, unless a permittee has filed a timely protest to the invoice amount.
- b. The permittee shall pay a permit processing fee in accordance with the provisions of C.R.S. § 25-7-114.7. If the Division estimates that processing of the permit will take more than 30 hours, it will notify the permittee of its estimate of what the actual charges may be prior to commencing any work exceeding the 30 hour limit.
- c. The permittee shall pay an APEN fee in accordance with the provisions of C.R.S. § 25-7-114.1(6) for each APEN or revised APEN filed.

## 9. Fugitive Particulate Emissions

#### Regulation No. 1, 5 CCR 1001-3, 'III.D.1.

The permittee shall employ such control measures and operating procedures as are necessary to minimize fugitive particulate emissions into the atmosphere, in accordance with the provisions of Regulation No. 1, 'III.D.1.

## 10. Inspection and Entry

## Regulation No. 3, 5 CCR 1001-5, Part C, 'V.C.16.b.

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Air Pollution Control Division, or any authorized representative, to perform the following:

- a. enter upon the permittee's premises where an Operating Permit source is located, or emissions-related activity is conducted, or where records must be kept under the terms of the permit;
- b. have access to, and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the Operating Permit;
- d. sample or monitor at reasonable times, for the purposes of assuring compliance with the Operating Permit or applicable requirements, any substances or parameters.

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#### 11. Minor Permit Modifications

#### Regulation No. 3, 5 CCR 1001-5, Part C, "X. & XI.

The permittee shall submit an application for a minor permit modification before making the change requested in the application. The permit shield shall not extend to minor permit modifications.

#### 12. New Source Review

## Regulation No. 3, 5 CCR 1001-5, Part B

The permittee shall not commence construction or modification of a source required to be reviewed under the New Source Review provisions of Regulation No. 3, Part B, without first receiving a construction permit.

## 13. No Property Rights Conveyed

#### Regulation No. 3, 5 CCR 1001-5, Part C, 'V.C.11.d.

This permit does not convey any property rights of any sort, or any exclusive privilege.

#### 14. Odor

#### Regulation No. 2, 5 CCR 1001-4, Part A

As a matter of state law only, the permittee shall comply with the provisions of Regulation No. 2 concerning odorous emissions.

## 15. Off-Permit Changes to the Source

#### Regulation No. 3, 5 CCR 1001-5, Part C, 'XII.B.

The permittee shall record any off-permit change to the source that causes the emissions of a regulated pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from the change, including any other data necessary to show compliance with applicable ambient air quality standards. The permittee shall provide contemporaneous notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit . The permit shield shall not apply to any off-permit change.

## 16. Opacity

#### Regulation No. 1, 5 CCR 1001-3, " I., II.

The permittee shall comply with the opacity emissions limitation set forth in Regulation No. 1, " I.-II.

## 17. Open Burning

## Regulation No. 9, 5 CCR 1001-11

The permittee shall obtain a permit from the Division for any regulated open burning activities in accordance with provisions of Regulation No. 9.

## 18. Ozone Depleting Compounds

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#### Regulation No. 15, 5 CCR 1001-17

The permittee shall comply with the provisions of Regulation No. 15 concerning emissions of ozone depleting compounds. Section I., II.C., II.D., III., IV., and V. of Regulation No. 15 shall be enforced as a matter of state law only.

## 19. Permit Expiration and Renewal

#### Regulation No. 3, 5 CCR 1001-5, Part C, "III.B.6., IV.C., V.C.2.

- a. The permit term shall be five (5) years. The permit shall expire at the end of its term. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted.
- b. Applications for renewal shall be submitted at least twelve months, but not more than 18 months, prior to the expiration of the Operating Permit. An application for permit renewal may address only those portions of the permit that require revision, supplementing, or deletion, incorporating the remaining permit terms by reference from the previous permit. A copy of any materials incorporated by reference must be included with the application.

#### 20. Portable Sources

#### Regulation No. 3, 5 CCR 1001-5, Part C, 'II.D.

Portable Source permittees shall notify the Air Pollution Control Division at least 10 days in advance of each change in location.

## 21. Prompt Deviation Reporting

#### Regulation No. 3, 5 CCR 1001-5, Part C, 'V.C.7.b.

The permittee shall promptly report any deviation from permit requirements, including those attributable to malfunction conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken.

"Prompt" is defined as follows:

- a. Any definition of "prompt" or a specific timeframe for reporting deviations provided in an underlying applicable requirement as identified in this permit; or
- b. Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations will be submitted based on the following schedule:
  - (i) For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report shall be made within 24 hours of the occurrence;
  - (ii) For emissions of any regulated air pollutant, excluding a hazardous air pollutant or a toxic air pollutant that continue for more than two hours in excess of permit requirements, the report shall be made within 48 hours; and
  - (iii) For all other deviations from permit requirements, the report shall be submitted every six (6) months, except as otherwise specified by the Division in the permit in accordance with paragraph 22.d. below.
- c. If any of the conditions in paragraphs b.i or b.ii above are met, the source shall notify the Division by telephone (303-692-3155) or facsimile (303-782-0278) based on the timetables listed above. [Explanatory note: Notification by telephone or facsimile must specify that this notification is a deviation report for an Operating Permit.] A written notice, certified consistent with

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General Condition 2.a. above (Certification Requirements), shall be submitted within 10 working days of the occurrence. All deviations reported under this section shall also be identified in the 6-month report required above.

"Prompt reporting" does not constitute an exception to the requirements of "Emergency Provisions" for the purpose of avoiding enforcement actions.

#### 22. Record Keeping and Reporting Requirements

#### Regulation No. 3, 5 CCR 1001-5, Part A, 'II.; Part C, "V.C.6., V.C.7.

- a. Unless otherwise provided in the source specific conditions of this Operating Permit, the permittee shall maintain compliance monitoring records that include the following information:
  - (i) date, place as defined in the Operating Permit, and time of sampling or measurements;
  - (ii) date(s) on which analyses were performed;
  - (iii) the company or entity that performed the analysis;
  - (iv) the analytical techniques or methods used;
  - (v) the results of such analysis; and
  - (vi) the operating conditions at the time of sampling or measurement.
- b. The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report or application. Support information, for this purpose, includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Operating Permit. With prior approval of the Air Pollution Control Division, the permittee may maintain any of the above records in a computerized form.
- c. Permittees must retain records of all required monitoring data and support information for the most recent twelve (12) month period, as well as compliance certifications for the past five (5) years on-site at all times. A permittee shall make available for the Air Pollution Control Division's review all other records of required monitoring data and support information required to be retained by the permittee upon 48 hours advance notice by the Division.
- d. The permittee shall submit to the Air Pollution Control Division all reports of any required monitoring at least every six (6) months, unless an applicable requirement, the compliance assurance monitoring rule, or the Division requires submission on a more frequent basis. All instances of deviations from any permit requirements must be clearly identified in such reports.
- e. The permittee shall file an Air Pollutant Emissions Notice ("APEN") prior to constructing, modifying, or altering any facility, process, activity which constitutes a stationary source from which air pollutants are or are to be emitted, unless such source is exempt from the APEN filing requirements of Regulation No. 3, Part A, 'II.D. A revised APEN shall be filed annually whenever a significant change in emissions, as defined in Regulation No. 3, Part A, 'II.C.2., occurs; whenever there is a change in owner or operator of any facility, process, or activity; whenever new control equipment is installed; whenever a different type of control equipment replaces an existing type of control equipment; whenever a permit limitation must be modified; or before the APEN expires. An APEN is valid for a period of five years. The five-year period recommences when a revised APEN is received by the Air Pollution Control Division. Revised APENs shall be submitted no later than 30 days before the five-year term expires. Permittees submitting revised APENs to inform the Division of a change in actual emission rates must do so by April 30 of the following year. Where a permit revision is required, the revised APEN must be filed along with a request for permit revision.

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APENs for changes in control equipment must be submitted before the change occurs. Annual fees are based on the most recent APEN on file with the Division.

## 23. Reopenings for Cause

## Regulation No. 3, 5 CCR 1001-5, Part C, 'XIII.

- a. The Air Pollution Control Division shall reopen, revise, and reissue Operating Permits; permit reopenings and reissuance shall be processed using the procedures set forth in Regulation No. 3, Part C, § III., except that proceedings to reopen and reissue permits affect only those parts of the permit for which cause to reopen exists.
- b. The Division shall reopen a permit whenever additional applicable requirements become applicable to a major source with a remaining permit term of three or more years, unless the effective date of the requirements is later than the date on which the permit expires, or unless a general permit is obtained to address the new requirements; whenever additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program; whenever the Division determines the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or whenever the Division determines that the permit must be revised or revoked to assure compliance with an applicable requirement.
- c. The Division shall provide 30 days' advance notice to the permittee of its intent to reopen the permit, except that a shorter notice may be provided in the case of an emergency.
- d. The permit shield shall extend to those parts of the permit that have been changed pursuant to the reopening and reissuance procedure.

#### **24.** Section 502(b)(10) Changes

## Regulation No. 3, 5 CCR 1001-5, Part C, 'XII.A.

The permittee shall provide a minimum 7-day advance notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit. The permittee shall attach a copy of each such notice given to its Operating Permit.

# 25. Severability Clause

## Regulation No. 3, 5 CCR 1001-5, Part C, 'V.C.10.

In the event of a challenge to any portion of the permit, all emissions limits, specific and general conditions, monitoring, record keeping and reporting requirements of the permit, except those being challenged, remain valid and enforceable.

#### **26.** Significant Permit Modifications

## Regulation No. 3, 5 CCR 1001-5, Part C, § III.B.2.

The permittee shall not make a significant modification required to be reviewed under Regulation No. 3, Part B ("Construction Permit" requirements) without first receiving a construction permit. The permittee shall submit a complete Operating Permit application or application for an Operating Permit revision for any new or modified source within twelve months of commencing operation, to the address listed in Item 1 in Appendix D of this permit. If the permittee chooses to use the "Combined Construction/Operating Permit" application procedures of Regulation No. 3, Part C, then the Operating Permit must be received prior to commencing construction of the new or modified source.

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## 27. Special Provisions Concerning the Acid Rain Program

#### Regulation No. 3, 5 CCR 1001-5, Part C, "V.C.1.b. & 8

- a. Where an applicable requirement of the federal act is more stringent than an applicable requirement of regulations promulgated under Title IV of the federal act, 40 Code of Federal Regulations (CFR) Part 72, both provisions shall be incorporated into the permit and shall be federally enforceable.
- b. Emissions exceeding any allowances that the source lawfully holds under Title IV of the federal act or the regulations promulgated thereunder, 40 CFR Part 72, are expressly prohibited.

## 28. Transfer or Assignment of Ownership

## Regulation No. 3, 5 CCR 1001-5, Part C, 'II.C.

No transfer or assignment of ownership of the Operating Permit source will be effective unless the prospective owner or operator applies to the Air Pollution Control Division on Division-supplied Administrative Permit Amendment forms, for reissuance of the existing Operating Permit. No administrative permit shall be complete until a written agreement containing a specific date for transfer of permit, responsibility, coverage, and liability between the permittee and the prospective owner or operator has been submitted to the Division.

## 29. Volatile Organic Compounds

#### Regulation No. 7, 5 CCR 1001-9, " III & V.

a. For sources located in an ozone non-attainment area or the Denver Metro Attainment Maintenance Area, all storage tank gauging devices, anti-rotation devices, accesses, seals, hatches, roof drainage systems, support structures, and pressure relief valves shall be maintained and operated to prevent detectable vapor loss except when opened, actuated, or used for necessary and proper activities (e.g. maintenance). Such opening, actuation, or use shall be limited so as to minimize vapor loss.

Detectable vapor loss shall be determined visually, by touch, by presence of odor, or using a portable hydrocarbon analyzer. When an analyzer is used, detectable vapor loss means a VOC concentration exceeding 10,000 ppm. Testing shall be conducted as in Regulation No. 7, Section VIII.C.3.

Except when otherwise provided by Regulation No. 7, all volatile organic compounds, excluding petroleum liquids, transferred to any tank, container, or vehicle compartment with a capacity exceeding 212 liters (56 gallons), shall be transferred using submerged or bottom filling equipment. For top loading, the fill tube shall reach within six inches of the bottom of the tank compartment. For bottom-fill operations, the inlet shall be flush with the tank bottom.

- b. The permittee shall not dispose of volatile organic compounds by evaporation or spillage unless Reasonably Available Control Technology (RACT) is utilized.
- c. No owner or operator of a bulk gasoline terminal, bulk gasoline plant, or gasoline dispensing facility as defined in Colorado Regulation No. 7, Section VI, shall permit gasoline to be intentionally spilled, discarded in sewers, stored in open containers, or disposed of in any other manner that would result in evaporation.

#### 30. Wood Stoves and Wood burning Appliances

## Regulation No. 4, 5 CCR 1001-6

The permittee shall comply with the provisions of Regulation No. 4 concerning the advertisement, sale, installation, and use of wood stoves and wood burning appliances.

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# END OF PERMIT REQUIREMENTS

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# **OPERATING PERMIT APPENDICES**

- A INSPECTION INFORMATION
- **B COMPLIANCE MONITORING REPORT FORMAT**
- **C COMPLIANCE CERTIFICATION REPORT FORMAT**
- **D-NOTIFICATION ADDRESSES**
- E PERMIT ACRONYMS & ABBREVIATIONS
- F NSPS KKK EXAMPLE REPORT FORMAT
- **G PERMIT MODIFICATIONS**

# **DISCLAIMER:**

None of the information found in these Appendices shall be considered to be State or Federally enforceable, except as otherwise stated in this permit, and is presented to assist the source, permitting authority, inspectors, and citizens.

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# **APPENDIX A - Inspection Information**

#### 1. Directions to Plant:

The facility is located in both the south half of the southwest quarter of Section 35, T5N, R66W. The plant is address is 3009 West 44th Avenue, Greeley, Colorado. Take Highway 85 to Greeley. Go through La Salle and across the Platte River. After crossing the river, take the next left which is 42nd Street. From 42nd Street take a left onto Industrial Parkway. Industrial Parkway will curve and turn into 49th Street. The plant is on 49th Street.

# 2. Safety Equipment Required:

Hard Hat Safety Shoes Ear Protection Eye Protection Fire Retardant Clothing

# 3. Facility Plot Plan:

Figure 1 shows the plot plan as submitted on January 18, 1995 with the source's Title V Operating Permit Application.

# 4. List of Insignificant Activities:

The following generic list of insignificant activities was provided in the Title V application:

## Laboratories:

Noncommercial (in-house) experimental and analytical laboratory equipment which is bench scale in nature including quality control/quality assurance laboratories, process support laboratories, environmental laboratories supporting a manufacturing or industrial facility, and research and development laboratories.

Research and development activities which are of a small pilot scale and which process less than 10,000 pounds of test material per year.

Small pilot scale research and development projects less than six months in duration with controlled actual emissions less than 500 pounds of any criteria pollutant or 10 pounds of any non-criteria reportable pollutant.

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Each individual piece of fuel burning equipment, other than smokehouse generators and internal combustion engines, which uses gaseous fuel, and which has a design rate less than or equal to 5million Btu per hour. (See definition of fuel burning equipment, Common Provisions Regulation).

Petroleum industry flares, not associated with refineries, combusting natural gas containing no H2S except in trace (less than 500 ppmw) amounts, approved by the Colorado Oil and Gas Conservation Commission and having uncontrolled emissions of any pollutant of less than five tons per year.

Chemical storage tanks or containers that hold less than 500 gallons, and which have a daily throughput less than 25 gallons.

Chemical storage areas where chemicals are stored in closed containers, and where total storage capacity does not exceed 5000 gallons. This exemption applies solely to storage of such chemicals. This exemption does not apply to transfer of chemicals from, to, or between such containers.

Storage of butane, propane, or liquefied petroleum gas in a vessel with a capacity of less than 60,000 gallons, provided the requirements of Regulation No. 7, Section IV are met, where applicable.

Storage tanks of capacity < 40,000 gallons of lubricating oils.

Fuel storage and dispensing equipment in ozone attainment areas operated solely for company-owned vehicles where the daily fuel throughput is no more than 400 gallons per day, averaged over 30 day period.

Crude oil or condensate storage tanks with a capacity of 40,000 gallons or less.

Each individual piece of fuel burning equipment, which uses gaseous fuel, and which has a design rate less than or equal to 10 million Btu per hour, and which is solely for heating buildings for personal comfort.

Air pollution emission units, operations or activities with emissions less than the appropriate de minimis reporting level.

Specific units are identified as follows

One 4.6 million Btu per hour natural gas fired heater for the ethylene glycol system on the natural gas hydration inhibition system.

One 1.7 million Btu per hour natural gas fired heater for the triethylene glycol system on the natural gas dehydration system.

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Flare pilot (FLARE) emissions

Methanol tank (TK-14)

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#### **APPENDIX B - Reporting Requirements and Definitions**

with codes ver 2/20/07

Please note that, pursuant to 113(c)(2) of the federal Clean Air Act, any person who knowingly:

- (A) makes any false material statement, representation, or certification in, or omits material information from, or knowingly alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required pursuant to the Act to be either filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State);
- (B) fails to notify or report as required under the Act; or
- (C) falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required to be maintained or followed under the Act shall, upon conviction, be punished by a fine pursuant to title 18 of the United States Code, or by imprisonment for not more than 2 years, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

The permittee must comply with all conditions of this operating permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

The Part 70 Operating Permit program requires three types of reports to be filed for all permits. All required reports must be certified by a responsible official.

#### **Report #1: Monitoring Deviation Report** (due at least every six months)

For purposes of this operating permit, the Division is requiring that the monitoring reports are due every six months unless otherwise noted in the permit. All instances of deviations from permit monitoring requirements must be clearly identified in such reports.

For purposes of this operating permit, monitoring means any condition determined by observation, by data from any monitoring protocol, or by any other monitoring which is required by the permit as well as the recordkeeping associated with that monitoring. This would include, for example, fuel use or process rate monitoring, fuel analyses, and operational or control device parameter monitoring.

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## **Report #2: Permit Deviation Report (must be reported "promptly")**

In addition to the monitoring requirements set forth in the permits as discussed above, each and every requirement of the permit is subject to deviation reporting. The reports must address deviations from permit requirements, including those attributable to malfunctions as defined in this Appendix, the probable cause of such deviations, and any corrective actions or preventive measures taken. All deviations from any term or condition of the permit are required to be summarized or referenced in the annual compliance certification.

For purposes of this operating permit, "malfunction" shall refer to both emergency conditions and malfunctions. Additional discussion on these conditions is provided later in this Appendix.

For purposes of this operating permit, the Division is requiring that the permit deviation reports are due as set forth in General Condition 21. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. For example, quarterly Excess Emission Reports required by an NSPS or Regulation No. 1, Section IV.

In addition to the monitoring deviations discussed above, included in the meaning of deviation for the purposes of this operating permit are any of the following:

- (1) A situation where emissions exceed an emission limitation or standard contained in the permit;
- (2) A situation where process or control device parameter values demonstrate that an emission limitation or standard contained in the permit has not been met;
- (3) A situation in which observations or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit; or,
- (4) A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred. (only if the emission point is subject to CAM)

For reporting purposes, the Division has combined the Monitoring Deviation Report with the Permit Deviation Report. All deviations shall be reported using the following codes:

1 = Standard: When the requirement is an emission limit or standard 2 = Process: When the requirement is a production/process limit

**3 = Monitor:** When the requirement is monitoring **4 = Test:** When the requirement is testing

**5 = Maintenance:** When required maintenance is not performed

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**6 = Record:** When the requirement is recordkeeping **7 = Report:** When the requirement is reporting

**8 = CAM:** A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the

Compliance Assurance Monitoring (CAM) Rule) has occurred.

**9 = Other:** When the deviation is not covered by any of the above categories

## **Report #3: Compliance Certification (annually, as defined in the permit)**

Submission of compliance certifications with terms and conditions in the permit, including emission limitations, standards, or work practices, is required not less than annually.

Compliance Certifications are intended to state the compliance status of each requirement of the permit over the certification period. They must be based, at a minimum, on the testing and monitoring methods specified in the permit that were conducted during the relevant time period. In addition, if the owner or operator knows of other material information (i.e. information beyond required monitoring that has been specifically assessed in relation to how the information potentially affects compliance status), that information must be identified and addressed in the compliance certification. The compliance certification must include the following:

- 4.7.1 The identification of each term or condition of the permit that is the basis of the certification;
- 4.7.2 Whether or not the method(s) used by the owner or operator for determining the compliance status with each permit term and condition during the certification period was the method(s) specified in the permit. Such methods and other means shall include, at a minimum, the methods and means required in the permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Clean Air Act, which prohibits knowingly making a false certification or omitting material information;
- 4.7.3 The status of compliance with the terms and conditions of the permit, and whether compliance was continuous or intermittent. The certification shall identify each deviation and take it into account in the compliance certification. Note that not all deviations are considered violations.<sup>1</sup>

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<sup>&</sup>lt;sup>1</sup> For example, given the various emissions limitations and monitoring requirements to which a source may be subject, a deviation from one requirement may not be a deviation under another requirement which recognizes an exception and/or special circumstances relating to that same event.

4.7.4 Such other facts as the Division may require, consistent with the applicable requirements to which the source is subject, to determine the compliance status of the source.

The Certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred. (only for emission points subject to CAM)

Note the requirement that the certification shall identify each deviation and take it into account in the compliance certification. Previously submitted deviation reports, including the deviation report submitted at the time of the annual certification, may be referenced in the compliance certification.

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# Startup, Shutdown, Malfunctions and Emergencies,

Understanding the application of Startup, Shutdown, Malfunctions and Emergency Provisions, is very important in both the deviation reports and the annual compliance certifications.

### Startup, Shutdown, and Malfunctions

Please note that exceedances of some New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) standards that occur during Startup, Shutdown or Malfunctions may not be considered to be non-compliance since emission limits or standards often do not apply unless specifically stated in the NSPS. Such exceedances must, however, be reported as excess emissions per the NSPS/MACT rules and would still be noted in the deviation report. In regard to compliance certifications, the permittee should be confident of the information related to those deviations when making compliance determinations since they are subject to Division review. The concepts of Startup, Shutdown and Malfunctions also exist for Best Available Control Technology (BACT) sources, but are not applied in the same fashion as for NSPS and MACT sources.

#### **Emergency Provisions**

Under the Emergency provisions of Part 70 certain operational conditions may act as an affirmative defense against enforcement action if they are properly reported.

#### **DEFINITIONS**

**Malfunction** (NSPS) means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

**Malfunction** (SIP) means any sudden and unavoidable failure of air pollution control equipment or process equipment or unintended failure of a process to operate in a normal or usual manner. Failures that are primarily caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

**Emergency** means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

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## Monitoring and Permit Deviation Report - Part I

- 1. Following is the **required** format for the Monitoring and Permit Deviation report to be submitted to the Division on a semi-annual basis unless otherwise noted in the permit. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.
- 2. Part II of this Appendix B shows the format and information the Division will require for describing periods of monitoring and permit deviations, or upset or emergency conditions as indicated in the Table below. One Part II Form must be completed for each Deviation. Previously submitted reports (e.g., EER's or Upsets) may be referenced and the form need not be filled out in its entirety.

FACILITY NAME: DCP Mids	stream, LP – Greeley Gas Processing Plant
OPERATING PERMIT NO:	95OPWE038
REPORTING PERIOD:	(see first page of the permit for specific reporting period and dates)

Operating Permit Unit ID			ns noted Period? <sup>1</sup>	Deviation Code <sup>2</sup>	Emergene Report	Malfunction/ Emergency Condition Reported During Period?	
		YES	NO		YES	NO	
P120	Waukesha Model F-3521 GSI Compressor Engine; 450 HP						
P121	Waukesha Model F-11 G Compressor Engine; 125 HP						
P122	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP						
P123	Waukesha Model L-7042 GSI Compressor Engine; 1232 HP						
P124	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP						
P125	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP						
P126	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP						

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Operating Permit Unit ID			Deviations noted During Period? Unit Description			Deviation Code <sup>2</sup>	Malfunction/ Emergency Condition Reported During Period?	
		YES	NO		YES	NO		
P127	Waukesha Model L-7042 GU Compressor Engine; 896 HP							
P128	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP							
P129	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP							
P139	35.1 MMBtu/Hr Natural gas fired heater for heating hot oil							
P132	15 MMBtu/Hr Natural gas fired heater for heating hot oil							
P133	Fractionation &NGL Processing Plant Fugitives							
P135	NGL, Propane, Butane and Y-Grade Truck Loadout							
P136	Triethylene glycol regeneration unit							
P138	Condensate truck loadout							
P130	Ethylene glycol regeneration unit							
General Conditions								
Insignificant Activities								

<sup>&</sup>lt;sup>1</sup> See previous discussion regarding what is considered to be a deviation. Determination of whether or not a deviation has occurred shall be based on a reasonable inquiry using readily available information.

1 = Standard: When the requirement is an emission limit or standard 2 = Process: When the requirement is a production/process limit

3 = Monitor: When the requirement is monitoring 4 = Test: When the requirement is testing

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<sup>&</sup>lt;sup>2</sup> Use the following entries, as appropriate:

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5 = Maintenance: When required maintenance is not performed
 6 = Record: When the requirement is recordkeeping
 7 = Report: When the requirement is reporting

**8 = CAM:** A situation in which an excursion or exceedance as defined in 40 CFR Part 64 (the Compliance Assurance

Monitoring (CAM) Rule) has occurred.

**9 = Other:** When the deviation is not covered by any of the above categories

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# Monitoring and Permit Deviation Report $\,$ - Part II

FACILITY NAME: OPERATING PERMIT NO: REPORTING PERIOD:	DCP Mic 95OPWE		Greeley Gas Processing Plant		
Is the deviation being claimed	d as an:	Emergency	Malfunction _	N/A	
(For NSPS/MACT) Did the d	eviation	occur during:	Startup Malfunction Norm	Shutdown al Operation	
OPERATING PERMIT UNI	Γ IDENT	TIFICATION:			
Operating Permit Condition N	Number (	<u>Citation</u>			
Explanation of Period of Dev	iation				
Duration (start/stop date & tin	me)				
Action Taken to Correct the I	Problem				
Measures Taken to Prevent a	Reoccur	rence of the P	<u>roblem</u>		
Dates of Malfunctions/Emerg	gencies R	eported (if ap	<u>plicable)</u>		
Deviation Code:			Division Code QA	A:	
	SE	EE EXAMPL	E ON THE NEXT PAGI	Ε	

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# **EXAMPLE**

FACILITY NAME: Acme Corp.  OPERATING PERMIT NO: 96OPZZXXX  REPORTING PERIOD: 1/1/96 - 6/30/96
Is the deviation being claimed as an: Emergency MalfunctionXX N/A
(For NSPS/MACT) Did the deviation occur during: Startup Shutdown Normal Operation
OPERATING PERMIT UNIT IDENTIFICATION:
Asphalt Plant with a Scrubber for Particulate Control - Unit XXX
Operating Permit Condition Number Citation Section II, Condition 3.1 - Opacity Limitation
Explanation of Period of Deviation Slurry Line Feed Plugged
<u>Duration</u> START- 1730 4/10/96 END- 1800 4/10/96
Action Taken to Correct the Problem Line Blown Out
Measures Taken to Prevent Reoccurrence of the Problem Replaced Line Filter
<u>Dates of Malfunctions/Emergencies Reported (if applicable)</u> 5/30/06 to A. Einstein, APCD
Deviation Code: Division Code QA:

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# **Monitoring and Permit Deviation Report - Part III**

## REPORT CERTIFICATION

SOURCE NAME: DCP Midstream, LP – Greeley Gas FACILITY IDENTIFICATION NUMBER: 1230099 PERMIT NUMBER: 950PWE038	Processing Plant
	the permit for specific reporting period and dates)
All information for the Title V Semi-Annual Deviation Reresponsible official signing this certification must be pre-a Regulation No. 3, Part A, Section I.B.54. This signed documents being submitted.	pproved by the Division in accordance with Colorado
STATEMENT OF COMPLETENESS	
I have reviewed the information being submitted in formed after reasonable inquiry, I certify that the state are true, accurate and complete.	· · · · · · · · · · · · · · · · · · ·
Please note that the Colorado Statutes state that any per 1-501(6), C.R.S., makes any false material statement, a guilty of a misdemeanor and may be punished in acceptable 122.1, C.R.S.	representation, or certification in this document is
Printed or Typed Name	Title
Signature of Responsible Official	Date Signed
Note: Deviation reports shall be submitted to the Div permit. No copies need be sent to the U.S. EPA.	vision at the address given in Appendix D of this
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# **APPENDIX C Required Format for Annual Compliance Certification Report (ver 2/20/07)**

Following is the format for the Compliance Certification report to be submitted to the Division and the U.S. EPA annually based on the effective date of the permit. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.

FACILITY NAME: DCP Midstream, LP –Greeley Gas Processing Plant
OPERATING PERMIT NO: 950PWE038
REPORTING PERIOD:
I. Facility Status
During the entire reporting period, this source was in compliance with <b>ALL</b> terms and conditions contained in the Permit, each term and condition of which is identified and included by this reference. The method(s) used to determine compliance is/are the method(s) specified in the Permit.
With the possible exception of the deviations identified in the table below, this source was in compliance with all terms and conditions contained in the Permit, each term and condition of which is identified and included by this reference, during the entire reporting period. The method used to determine compliance for each term and condition is the method specified in the Permit, unless otherwise indicated and described in the deviation report(s). Note that not all deviations are considered violations.

Operating Permit Unit ID	Unit Description	Deviations Reported <sup>1</sup>		Monit Metho Perm	d per	Was compliance intermittent? <sup>3</sup>	continuous or
		Previous	Current	YES	NO	Continuous	Intermittent
P120	Waukesha Model F-3521 GSI Compressor Engine; 450 HP						
P121	Waukesha Model F-11 G Compressor Engine; 125 HP						
P122	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP						

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Operating Permit Unit ID	Unit Description	Deviations Reported <sup>1</sup>				d per	Was compliance continuous or intermittent? <sup>3</sup>	
		Previous	Current	YES	NO	Continuous	Intermittent	
P123	Waukesha Model L-7042 GSI Compressor Engine; 1232 HP							
P124	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP							
P125	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP							
P126	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP							
P127	Waukesha Model 1-7042 GU Compressor Engine; 896 HP							
P128	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP							
P129	Waukesha Model L-7042 GSI Compressor Engine; 1100 HP							
P139	35.1 MMBtu/Hr Natural gas fired heater for heating hot oil							
P132	15 MMBtu/Hr Natural gas fired heater for heating hot oil							
P133	Fractionation & NGL Gas Processing Plant Fugitives							
P135	NGL, Propane, Butane and Y-Grade Truck Loadout							

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Operating Permit Unit ID	Unit Description	Deviations Reported <sup>1</sup>		nit Description  Deviations Reported <sup>1</sup> Monitoring Method per Permit? <sup>2</sup>		Reported <sup>1</sup> Method per intermittent? <sup>3</sup>		continuous or
		Previous	Current	YES	NO	Continuous	Intermittent	
P136	Triethylene glycol regeneration unit							
P138	Condensate truck loadout							
P130	Ethylene glycol regeneration unit							
General Conditions								
Insignificant Activities <sup>5</sup>								

<sup>&</sup>lt;sup>1</sup> If deviations were noted in the previous deviation report (i.e., for the first six months of the annual reporting period), put an "X" under "previous". If deviations were noted in the current deviation report (i.e., for the last six months of the annual reporting period), put an "X" under "current". Mark both columns if both apply.

#### NOTE:

The Periodic Monitoring requirements of the Operating Permit program rule are intended to provide assurance that even in the absence of a continuous system of monitoring the Title V source can demonstrate whether it has operated in continuous compliance for the duration of the reporting period. Therefore, if a source 1) conducts all of the monitoring and recordkeeping required in its permit, even if such activities are done periodically and not continuously, and if 2) such monitoring and recordkeeping does not indicate non-compliance, and if 3) the Responsible Official is not aware of any credible evidence that indicates non-compliance, then the Responsible Official can certify that the emission point(s) in question were in continuous compliance during the applicable time period.

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<sup>&</sup>lt;sup>2</sup> Note whether the method(s) used to determine the compliance status with each term and condition was the method(s) specified in the permit. If it was not, mark "no" and attach additional information/explanation.

<sup>&</sup>lt;sup>3</sup> Note whether the compliance status with of each term and condition provided was continuous or intermittent. "Intermittent Compliance" can mean either that noncompliance has occurred or that the owner or operator has data sufficient to certify compliance only on an intermittent basis. Certification of intermittent compliance therefore does not necessarily mean that any noncompliance has occurred.

<sup>&</sup>lt;sup>4</sup> Note whether the method(s) used to determine the compliance status with each term and condition provided continuous or intermittent data.

<sup>&</sup>lt;sup>5</sup> Compliance status for these sources shall be based on a reasonable inquiry using readily available information.

## APPENDIX D Notification Addresses

#### 1. **Air Pollution Control Division**

Colorado Department of Public Health and Environment Air Pollution Control Division Operating Permits Unit APCD-SS-B1 4300 Cherry Creek Drive S. Denver, CO 80246-1530

## 2. United States Environmental Protection Agency

Compliance Notifications:

Office of Enforcement, Compliance and Environmental Justice Mail Code 8ENF U.S. Environmental Protection Agency, Region VIII 1595 Wynkoop Street Denver, CO 80202-1129

Permit Modifications, Off Permit Changes:

Office of Partnerships and Regulatory Assistance Mail Stop 8P-AR U.S. Environmental Protection Agency, Region VIII 1595 Wynkoop Street Denver, CO 80202-1129

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# **APPENDIX E Permit Acronyms**

### Listed Alphabetically:

AIRS - Aerometric Information Retrieval System

AP-42 - EPA Document Compiling Air Pollutant Emission Factors

APEN - Air Pollution Emission Notice (State of Colorado)
 APCD - Air Pollution Control Division (State of Colorado)

ASTM - American Society for Testing and Materials

BACT - Best Available Control Technology

BTU - British Thermal Unit

CAA - Clean Air Act (CAAA = Clean Air Act Amendments)

CCR - Colorado Code of RegulationsCEM - Continuous Emissions Monitor

CF - Cubic Feet (scf = Standard Cubic Feet)

CFR - Code of Federal Regulations

CO - Carbon Monoxide

COM - Continuous Opacity MonitorCRS - Colorado Revised Statute

EPA - Environmental Protection Agency

FR - Federal Register

G - Grams Gal - Gallon

HAPs - Hazardous Air Pollutants

HP - Horsepower

HP-HR - Horsepower Hour (G/HP-HR = Grams per Horsepower Hour)

LAER - Lowest Achievable Emission Rate

LBS - Pounds M - Thousand MM - Million

MMscf - Million Standard Cubic Feet

MMscfd - Million Standard Cubic Feet per Day

N/A or NA - Not Applicable NO<sub>x</sub> - Nitrogen Oxides

NESHAP - National Emission Standards for Hazardous Air Pollutants

NSPS - New Source Performance Standards PM<sub>10</sub> - Particulate Matter Under 10 Microns

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PSD - Potential for Significant Deterioration

PTE - Potential To Emit

RACT - Reasonably Available Control Technology

SCC - Source Classification Code SIC - Standard Industrial Code

SO<sub>2</sub> - Sulfur Dioxide TPY - Tons Per Year

TSP - Total Suspended Particulate VOC - Volatile Organic Compounds

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# **APPENDIX F Permit Modifications**

		Т
DATE OF REVISION	SECTION NUMBER, CONDITION NUMBER	DESCRIPTION OF REVISION

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## **APPENDIX G - Compliance Assurance Monitoring Plan**

# I. Background

a. <u>Emission Unit Description:</u>

Seven (7) Waukesha Model L-7042 GSI Internal Combustion Engines, 1,100 HP each

b. <u>Applicable Regulation, Emission Limit, Monitoring Requirements:</u>

Regulations: Operating Permit Section II, Condition 1.1

Emission Limitations:  $1.1 - NO_x$  26.55 tons/yr

CO 26.55 tons/yr

c. <u>Control Technology:</u>

Non-Selective Catalytic Reduction

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# **II.** Monitoring Approach

	Indicator No. 1	Indicator No. 2
I. Indicator	Temperature of exhaust gas into catalyst	Pressure drop across the catalyst
Measurement Approach	Thermocouple	Measured in inches of water
II. Indicator Range	The indicator range is a temperature between 750° F and 1250° F.  Excursions above 1250° F trigger engine shutdown. Excursions below 750° F trigger notification of excursion. Excursions trigger the permittee to investigate the engine performance and make any repairs or adjustments necessary. Any adjustments or repairs shall be recorded in a log, to be made available to the Division upon request.	The indicator range is a pressure drop across the catalyst that is within three inches of water from the pressure drop across the catalyst measured during the initial performance test (or within three inches of the manufacturers specified range if the pressure drop was not determined during an initial performance test).  Excursions trigger the permittee to investigate the catalyst performance and make any repairs or adjustments necessary. Any adjustments or repairs shall be recorded in a log, to be made available to the Division upon request.
III. Performance Criteria		
a. Data Representativeness	Temperature is measured at the inlet to the catalyst. The minimum accuracy is +/- 5 ° F.	Pressure drop is measured across the catalyst while the engine is operating.
b. Verification of Operational Status	Thermocouple manufacturer guarantee.	Manometer manufacturer guarantee.
c. QA/QC Practices/Criteria	Calibration annually.	Per manufacturer's recommendation.
d. Monitoring Frequency	Daily.	Monthly
f. Data Collection Procedures	Temperature data will be automatically or manually recorded on days that the engine is operating.	Pressure drop will be recorded once per month.
e. Averaging Time	None	None.

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# **APPENDIX H - Applicability Reports (ver 11/8/08)**

Note: A MS Word version of this Appendix can be found at:

http://www.cdphe.state.co.us/ap/oilgaspermitting.html

#### **DISCLAIMER:**

These are only example reports and do not cover all possible requirements.

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# Engine AOS Applicability Report Certification Language

All information for the Applicability Reports must be certified by either 1) for Operating Permits, a Responsible Official as defined in Colorado Regulation No. 3, Part A, Section I.B.38. or 2) for Construction and General Permits, the person legally authorized to act on behalf of the source.

This signed certification document must be packaged with the documents being submitted.

I have reviewed this certification in its entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this certification are true, accurate and complete. Further, I agree that by signing and submitting these documents I agree that any new requirements identified in the Applicability Report(s) shall be considered to be Applicable Requirements as defined in Colorado Regulation No. 3, section I.B.9., and that such requirements shall be enforceable by the Division and its agents and shall be considered to be revisions to the underlying permit(s) referenced in the Report(s) until such time as the Permit is revised to reflect the new requirements.

Please note that the Colorado Statutes state that any person who knowingly, as defined in § 18-1-501(6), C.R.S., makes any false material statement, representation, or certification in this document is guilty of a misdemeanor and may be punished in accordance with the provisions of § 25-7 122.1, C.R.S.

Printed or Typed Name		
Title		
Signature	Date Signed	

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# Colorado Regulation No. 7 Sections XVI and XVII.E

DISCLAIMER: This is only an example report and does not cover all possible Reg 7 requirements.

Company: Acme Gas Processing

Source ID: 999/1234/001 Permit #: 93OPXX999 Date: October 1, 2008

Determination of compliance and reporting requirements for a

Manufacturer: BestEngineCompany

Model: 777 LowNox

Nameplate HP: 1340

Construction date: July 1, 2007

Note: If the engine is exempt from a requirement due to construction date or was relocated from within Colorado, supporting documentation must be provided.

# **Determination of Regulation No. 7 requirements:**

#### Regulation No. 7, § XVI

Does not apply to this engine. Engine is not located in the ozone nonattainment area or does not have a manufacturer's design rate greater than 500 horsepower or did not commence operation on or after June 1, 2004.
☐ Does apply to this engine and applicable emissions controls have been installed.
Regulation No. 7, § XVII.E
Does not apply to this engine. Engine does not have a maximum horsepower greater than 100 or the construction or relocation date precedes the applicability dates.
☐ Does apply to this engine. The following emission limits apply to the engine:
$NO_X$ (g/hp-hr): 2.0

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CO (g/hp-hr): 4.0 VOC (g/hp-hr): 1.0

Max Engine HP	Construction or Relocation Date	Emission Standards in g/hp-hr		
		$NO_X$	CO	VOC
100 <hp<500< td=""><td>January 1, 2008</td><td>2.0</td><td>4.0</td><td>1.0</td></hp<500<>	January 1, 2008	2.0	4.0	1.0
	January 1, 2011	1.0	2.0	0.7
500 <u>&lt;</u> Hp	July 1, 2007	2.0	4.0	1.0
	July 1, 2010	1.0	2.0	0.7

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# **NSPS JJJJ Example Report Format**

#### DISCLAIMER: This is only an example report and does not cover all possible JJJJ requirements.

Note that as of September 1, 2008 that the Division has not yet adopted NSPS JJJJ. Until such time as it does, any engine subject to NSPS will be subject only under Federal law. Once the Division adopts NSPS JJJJ, there will be an additional step added to the determination of the NSPS. Under the provisions of Regulation No. 6, Part B, § I.B (which is referenced in Part A), any engine relocated from outside of the State of Colorado into the State of Colorado is considered to be a new source, subject to the requirements of NSPS JJJJ.

# NSPS Subpart JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Lingines		
Company:	Acme Gas Processing	
Source ID:	999/1234/001	
Permit #:	93OPXX999	
Date:	October 1, 2008	

Manufacturer: BestEngineCompany

Model: 777 LowNox

Nameplate HP: 1340

Engine Type: 2 Stroke Rich Burn

Manufacture Date: July 1, 2007 Date Engine Ordered: April 1, 2007

Note: If the engine is exempt from a requirement due to construction/manufacture date, supporting documentation must be provided.

Upon adoption of NSPS Subpart JJJJ into Colorado Regulation No. 6, Part A, if the engine is exempt because the engine was relocated within the state of Colorado, supporting documentation must be provided.

NSPS JJJJ does not apply to this engine.

NSPS JJJJ does apply to this engine.

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Note: Using the format below, the source must submit to the Division an analysis of all of the NSPS JJJJ applicable requirements that apply to this specific engine. **The analysis below is an example only**, based on a hypothetical engine that is a rich burn engine, greater than 500 HP, with a manufacture date after July 1, 2007.

# <u>Determination of NSPS JJJJ requirements:</u>

#### 60.4230 Applicability

60.4234

(a)(4)(i) Applies to this engine since it is a rich burn engine, greater than 500 HP, with a manufacture date after July 1, 2007.

# 60.4233 Emission Standards for Owners and Operators

(e) Owners and operators of stationary SI ICE with a maximum engine power greater than 100 HP must comply with the standards in Table 1.

Non-Emergency SI, Natural Gas, HP≥500, Manufactured after 7/1/2007

NO<sub>x</sub> 2.0 g/HP-hr or 160 ppmvd@15% O<sub>2</sub> CO 4.0 g/HP-hr or 540 ppmvd@15% O<sub>2</sub> VOC 1.0 g/HP-hr or 86 ppmvd@15% O<sub>2</sub>

Emission standards must be met for the lifetime of the engine.

#### Other Requirements for Owners and Operators

60.4235	N/A - Sulfur content of gasoline.
60.4236	N/A (for now) - After July 1, 2009 owners and operators may not install engines with a
	power rating $\geq$ 500HP that do not meet the emissions standards in 60.4230.
60.4237	N/A - Emergency Engines.

#### 60.4238 - 60.4242 Compliance Requirements for Manufacturers – (Not Applicable)

#### **60.4243** Compliance Requirements for Owners and Operators

- (b)(2)(ii) To maintain compliance with the emission limits in 60.4233, owners of SI ICE  $\geq 500$ HP must:
  - Keep a maintenance plan;
  - Keep records of conducted maintenance;

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- Maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions;
- Conduct an initial performance test; and
- Conduct subsequent performance tests every 8,760 hours or every three years, which ever comes first, in order to demonstrate compliance with the emission limits.
- (g) Air to fuel ratio controllers (AFRCs) must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

## **60.4244 Testing Requirements for Owners and Operators**

- (a) Each performance test must be conducted within 10% of the highest achievable load and must comply with the testing requirements listed in 60.8 and Table 2 of NSPS JJJJ.
- (b) Performance tests may not be conducted during periods of startup, shutdown, or malfunction, as specified in 60.8(c). If the engine is non-operational when a performance test is due, the engine does not need to be started up just to test it, but will need to be tested immediately upon startup.
- (c) Three separate test runs must be conducted for each performance test as specified by 60.8(f). Each run must be within 10% of max load and be at least 1 hour in duration.
- (d) To determine compliance with the NO<sub>x</sub>, CO, and VOC mass per unit output emission limitations, the measured concentration must be converted using the equations outlined in this section of NSPS JJJJ.

#### 60.4245 Notification, Reports, and Records for Owners and Operators

- (a) Owners of all stationary SI ICE must keep records of the following:
  - (1) All notifications submitted to comply with this subpart;
  - (2) Maintenance conducted on the engine;
  - (3) N/A Manufacturer information for certified engines, and
  - (4) Documentation that shows non-certified engines are in compliance with the emission standards.
- (b) N/A For emergency engines only.

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- Owners of non-certified engines  $\geq$  500HP must submit an initial notification as required in 60.7(a)(1) which includes the following information:
  - (1) Name and address of the owner or operator;
  - (2) The address of the affected source;
  - (3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
  - (4) Emission control equipment; and
  - (5) Fuel used.

#### **CONCLUSION OF FINDINGS (EXAMPLE ONLY)**

In general, Acme's 1,235HP, Waukesha 7042 GSI engine is subject to the emissions limitations summarized in Table 1 of NSPS JJJJ. ACME will meet these emission limitations using an AFRC and a non-selective catalytic converter (NSCR). These emission rates will be met throughout the life of the engine. A maintenance plan will be kept and all maintenance activities will be recorded. Compliance with the emission limits will be confirmed by the initial performance tests, which shall be conducted following the procedures outlined in 60.4244. Copies of performance test results will be submitted within 60 days of the completion of each test. Since this is an uncertified engine, an initial notification will be submitted including all of the requested information in 40.4245 within 30 days of startup. ACME will keep records of all compliance related materials.

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## MACT ZZZZ Area Source Example Report Format

DISCLAIMER: This is only an example report and does not cover all possible ZZZZ requirements.

MACT Subpart ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Company: Acme Gas Processing

Source ID: 999/1234/001 Permit #: 93OPXX999 Date: October 1, 2008

Manufacturer: Best Engine Company

Model: 777 LowNox

Nameplate HP: 1340

Engine Type: 2 Stroke Rich Burn

Manufacture Date: July 1, 2007 Date Engine Ordered: April 1, 2007

Note: If the engine is exempt from a requirement due to construction/reconstruction date, supporting documentation must be provided.

MACT ZZZZ does not apply to this engin	ıe.
MACT ZZZZ does apply to this engine.	

Note: Using the format below, the source must submit to the Division an analysis of all of the area source MACT ZZZZ applicable requirements that apply to this specific engine. **The analysis below is an example only**, based on a hypothetical new engine located at an area source of HAP emissions.

# <u>Determination of MACT ZZZZ requirements:</u>

# 63.6585 Applicability

This subpart is applicable to Acme's engine since they are going to be operating a new stationary reciprocating internal combustion engine (RICE) at an area source of HAP emissions.

### 63.6590 What Parts of My Plant Does This Subpart Cover?

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(c) A new or reconstructed stationary RICE located at an area source of HAP emissions that is subject to 40 CFR Part 60, must meet the requirements of this part by meeting the requirements of 40 CFR Part 60 subpart JJJJ.

# **CONCLUSION OF FINDINGS (EXAMPLE ONLY)**

Since this engine is subject to NSPS JJJJ, no additional requirements apply under MACT ZZZZ.

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# MACT ZZZZ Major Source Example Report Format

DISCLAIMER: This is only an example report and does not cover all possible ZZZZ requirements.

MACT Subpart ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Company: Acme Gas Processing

Source ID: 999/1234/001 Permit #: 93OPXX999 Date: October 1, 2008

Manufacturer: BestEngineCompany

Model: 777 LowNox

Nameplate HP: 1340

Engine Type: 2 Stroke Rich Burn

Manufacture Date: July 1, 2007 Date Engine Ordered: April 1, 2007

Note: If the engine is exempt from a requirement due to construction/reconstruction date, supporting documentation must be provided.

MACT ZZZZ does not apply to this engine.	
MACT ZZZZ does apply to this engine.	

Note: Using the format below, the source must submit to the Division an analysis of all of the major source MACT ZZZZ applicable requirements that apply to this specific engine. **The analysis below is an example only**, based on a hypothetical new engine located at a major source of HAP emissions.

# <u>Determination of MACT ZZZZ requirements:</u>

### 63.6585 Applicability

This subpart is applicable to Acme's engine since they are going to be operating a new stationary reciprocating internal combustion engine (RICE) at a major source of HAP emissions.

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## 63.6590 What Parts of My Plant Does This Subpart Cover?

This subpart covers Acme's new stationary reciprocating internal combustion engine.

#### 63.6595 When do I have to comply with this Subpart?

(a)(5) The engine must comply with the applicable emission limitations and operating limitations upon startup.

### 63.6600 Emission and operating limitations for RICE site rated at more than 500 hp

(a) The engine is subject to the emission limits in table 1a and the operating limits in table 1b. ACME will meet the emission limitations by reducing formaldehyde emissions by 76 percent and will maintain the catalyst such that the pressure drop does not change by more than 2 inches of  $H_2O$  at 100 % load plus or minus 10 percent from the pressure drop measured during the initial performance test and will maintain the temperature of the engine exhaust so that the catalyst inlet temperature is greater than or equal to 750 ° F and less than or equal to 1250 ° F.

The engine will be equipped with non-selective catalytic reduction and an air fuel controller to meet the emission limitations.

#### 63.6601 & 63.6611 Requirements for 4SLB engines between 250 and 200 hp

These requirements do not apply.

#### **63.6605** General Requirements

- (a) The engine will comply with the emission and operating limitations at all times, except during periods of startup, shutdown and malfunction (SSM)
- (b) The engine, including air pollution control and monitoring equipment shall be operating in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during SSM.

#### **63.6610** Initial performance test

- (a) the performance tests specified in Table 4 (select sampling port and measure O<sub>2</sub>, moisture and formaldehyde at inlet and outlet of the control device) shall be conducted within 180 days of startup.
- (b) & (c) not applicable construction did not commence between 12/19/02 and 6/15/04.
- (d) previous performance tests have not been conducted on this unit within two years, therefore, this provision does not apply.

## 63.6615 Subsequent performance tests

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Subsequent tests will be conducted as specified in Table 3. No additional testing is required for 4SRB engines meeting the formaldehyde percent reduction requirements.

# **63.6620** Performance test procedures

- (b) tests must be conducted at 100 % load plus or minus 10%
- (c) tests may not be conducted during periods of SSM.
- (d) must conduct three 1-hr test runs
- (e) equation (e)(1) shall be used to determine compliance with the percent reduction requirement.
- (f), (g) & (h) Not applicable
- (i) engine load during test shall be determined as specified in this paragraph.

# 63.6625 Monitoring, installation, operation and maintenance requirements

- (a), (c) & (d) Not applicable
- (b) a continuous parameter monitoring system (CPMS) shall be installed to measure the catalyst inlet temperature. The CPMS will meet the requirements in § 63.8

#### **63.6630** Demonstrating initial compliance

- (a) initial compliance shall be determined in accordance with table 5 (initial performance test must indicate formaldehyde reduction of 76 percent or more, a CPMS must be installed to measure inlet temperature of the catalyst and the pressure drop and catalyst inlet temperature must be recorded during the initial performance test).
- (b) pressure differential will be established during the initial performance test.
- (c) Notification of compliance status will be submitted and will contain the results of the initial compliance demonstration.

#### **63.6635** Monitoring to demonstrate continuous compliance

- (b) except for monitor malfunctions, associated repairs, and required QA/QC activities monitoring must be continuous at all time the engine is operating.
- (c) data recorded during monitoring malfunctions, associated repairs and required QA/QC activities must not be used in data averages and calculations to report operating levels, however, all the valid data collected during other periods shall be used.

#### **63.6640** Demonstrating continuous compliance

(a) continuous compliance will be demonstrated as specified in table 6 (collect catalyst inlet temperature data, reduce that data to 4-hr rolling average and maintain the 4-hr rolling averages to within the operating limitation and measuring the pressure drop across the

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catalyst once per month and demonstrating that the pressure drop meets the operating limitation.

(b) deviations from the emission and operating limitations must be reported per § 63.6550. If catalyst is changed the operating parameters established during the initial performance test must be re-established.

When operating parameters re-established a performance test must also be conducted.

#### **63.6645** Notifications

- (a) Submit notifications in §§ 63.7(b) & (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) thru (e) & (g) & (h) that apply by dates specified.
- (b) Not applicable. Acme unit started after effective dated for Subpart ZZZZ.
- (c) Submit initial notification within 120 days after becoming subject to Subpart ZZZZ.
- (d) thru (f) Not applicable. Acme engine greater than 500 hp and subject to requirements in Subpart ZZZZ.
- (g) & (h) Submit notification of intent to conduct performance test and notification of compliance status.

## **63.6650 Reports**

- (a) Submit reports required by table 7 (compliance report and SSM reports (if actions inconsistent with SSM plan)
- (b) Not applicable, an alternate schedule for report submittal has been approved. Reports will be submitted with title v reports
- (c) Compliance reports to contain the following information: company name and address, statement by responsible official certifying accuracy, date of report and beginning and end of reporting period, if SSM the information in 63.10(d)(5)(i), if no deviations a statement saying that, if no periods when CPMS out of control a statement saying that.
- (d) Not applicable, using CPMS
- (e) For each deviation the information in (e)(1) thru (e)(12) shall be provided.
- (f) Applicable. Compliance reports are submitted with title v reports. Compliance reports under Subpart ZZZZ include all necessary info for title v deviation report with respect to Subpart ZZZZ requirements.
- (g) Not applicable. Acme engine not firing landfill or digester gas.

#### 63.6655 Recordkeeping

(a) Retain records as follows: copy of each notification and report (including all documentation supporting any initial notification or notification of compliance status),

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- records in 63.6(e)(iii) thru (v) related to SSM, and records of performance tests and evaluations.
- (b) CPMS records including records in 63.10(b)(2)(vi) thru (xi), previous versions of the performance evaluation plan required by 63.8(d)(3) and requests for alternatives to the relative accuracy test for CPMS as required by 63.8(f)(6)(i).
- (c) Not applicable. Acme engine not firing landfill or digester gas.
- (d) Will keep records required in Table 6 (monthly pressure drop readings, 4-hr averages of catalyst inlet temperature) to show continuous compliance with emission and operating limits.

#### 63.6660 Form and length of records

- (a) records must be in a form suitable and readily available for expeditions review
- (b) records must be retained for five years
- (c) records must be retained on-site for first 2 years, may be retained off-site for the remaining 3 years

#### **63.6665** General Provisions

This engine must comply with the general provisions as indicated in Table 8.

### **CONCLUSION OF FINDINGS (EXAMPLE ONLY)**

Since this engine is subject to the requirements of MACT Subpart ZZZZ. The engine will be installed with a non-selective catalyst to meet the formaldehyde reduction requirement of 76% or more. An initial performance test will be conducted within 180 days of startup to demonstrate compliance with the formaldehyde percent reduction requirement. During the initial performance test, the pressure drop across the catalyst will be measured. A CPMS will be installed to measure the catalyst inlet temperature. Continuous compliance will be demonstrated by keeping the 4-hr rolling averages of catalyst inlet temperature within the operating limitations and recording the pressure drop across the catalyst monthly and demonstrating that the pressure drop is within the operating limitation.

Records, notifications and reports will be submitted as required. To that end required reports and notifications include initial notification, notice of intent to conduct performance test, notification of compliance status, SSM reports (if required) and semi-annual compliance reports.

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